THE YARDS

IN-WATER DEVELOPMENT DRAFT ENVIRONMENTAL ASSESSMENT

April 2010

U.S. GENERAL SERVICES ADMINISTRATION
NATIONAL CAPITAL REGION

IN COORDINATION WITH

FOREST CITY SEFC LLC

THE YARDS IN-WATER DEVELOPMENT DRAFT ENVIRONMENTAL ASSESSMENT

WASHINGTON, DC

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Abstract

The U.S. General Services Administration (GSA), National Capital Region, as the lead agency, in coordination with Forest City SEFC LLC (Forest City), the developer, proposes to construct a marina and two public piers along the Anacostia River, at the southern boundary of The Yards. One pier of the public marina may also serve to accommodate a future water taxi service to other river points. This Draft Environmental Assessment (EA) serves as a supplement and is tiered to the 2004 *Development of the Southeast Federal Center Final Environmental Impact Statement* (SEFC EIS), which analyzed the environmental effects of the transfer of the 42-acre waterfront SEFC site by sale and/or ground least to a private developer for a mixed-use development with residences, offices, shops, a waterfront park, and cultural amenities. The SEFC EIS stated that the proposed development "may include In-water Development, such as marinas, boathouses, or water-taxi facilities. However, this type of development is outside the scope of this EIS...the effects of any In-water Development will be addressed in supplemental NEPA documentation". This Draft EA considers the environmental effects of implementing the No-Action Alternative and an action alternative of In-water Development with a 10-Foot Setback from the Anacostia River Federal Navigation Channel.

Comments Must Be Postmarked No Later Than XXXXX.

Direct Comments to:
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Table of Contents

List of Tables

List of Figures

Appendices

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List of Acronyms

ACBA – Anacostia Community Boathouse Association

ACHP – Advisory Council on Historic Preservation

ADA – Americans with Disabilities Act

AM – Ante Meridiem

ARAR – Applicable or Relevant and Appropriate Requirement

AWI – Anacostia Waterfront Initiative

BID – Business Improvement District

BMPs – Best Management Practices

BRAC – Base Realignment and Closure

BTAG – U.S. EPA Region III Biological Technical Assistance Group

CAA – Clean Air Act

CEQ – Council on Environmental Quality

CFR – Code of Federal Regulations

CO_2 – Carbon Dioxide

COE – United States Army Corps of Engineers

CPNC – Comprehensive Plan for the National Capital

CSO – Combined Sewer Overflow

CT – Census Tract

CWA – Clean Water Act

dBA – "A-weighted" Decibel

DC – District of Columbia

DDOE – District of Columbia Department of the Environment

DC DOH – District of Columbia Department of Health

DCHA – District of Columbia Housing Authority

DC HPO – District of Columbia Historic Preservation Office

DC MPD – District of Columbia Metropolitan Police Department

DC OP – District of Columbia Office of Planning

DDOT – District Department of Transportation

EIS – Environmental Impact Statement

EOs – Executive Orders

EPA – Environmental Protection Agency

ESA – Environmental Site Assessment

FEMA – Federal Emergency Management Agency

FEMS – Fire and Emergency Medical Services

FHWA – Federal Highway Administration

FNC – Federal Navigation Channel

GSA – Government Services Administration

MDE – Maryland Department of the Environment

MOU – Memorandum of Understanding

MWCOG – Metropolitan Washington Council of Governments

NAAQS – National Ambient Air Quality Standard

NCPC – National Capital Planning Commission

NCR – National Capital Region

ND – No Date

NEPA – National Environmental Policy Act

NO_2 – Nitrogen Dioxide

NOAA – National Oceanic and Atmospheric Administration

NPS – National Park Service

NRCS – Natural Resources Conservation Service

O_3 – Ozone

PA – Programmatic Agreement

PAH – Polycyclic Aromatic Hydrocarbon

Pb – Lead

PCBs – Polychlorinated Biphenyls

PEPCO – Potomac Electric Power Company

PM – Post Meridiem

$PM_{2.5}$/PM_{10} – Particulate Matter

PSAs – Police Service Areas

RCRA – Resource Conservation and Recovery Act

RFI – RCRA Facility Investigation

ROD – Record of Decision

RTE – rare, threatened, or endangered

SEFC – Southeast Federal Center

SIP – State Implementation Plan

SO_2 – Sulfur Dioxide

SWM – Storm Water Management

TMDL – Total Maximum Daily Load

USDA – U.S. Department of Agriculture

US DOT – United Stated Department of Transportation

USFWS – United States Fish and Wildlife Service

WASA – Water and Sewer Authority

WMATA – Washington Metropolitan Area Transit Authority

WTPs – Water Treatment Plants

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1. PURPOSE AND NEED FOR THE PROPOSED ACTION

1.A. Introduction

The U.S. General Services Administration (GSA), as the lead agency, in coordination with Forest City SEFC LLC (Forest City), the developer, has prepared this Draft Supplemental Environmental Assessment (EA) to evaluate potential effects of In-water Development at The Yards. The project is located in the Anacostia River in the new Capitol Riverfront neighborhood of Washington, DC (**Figure 1**). The Yards is bound by M Street to the north, First Street to the West, The Navy Yard to the east, and the Anacostia River to the south.

Once comprised of two formerly isolated neighborhoods known as Buzzards Point and Near Southeast, the Capitol Riverfront area has received renewed attention, as well as public and private investment to create a vibrant mixed-use community and Anacostia riverfront destination. Currently, over 40 percent of the neighborhood is in various stages of planning, construction, and completed revitalization development projects.

This EA serves as a supplement to the *Development of Southeast Federal Center Environmental Impact Statement* (SEFC EIS) that was prepared to analyze the effects associated with the transfer of 42 acres of the 55-acre Southeast Federal Center (SEFC) site to a private developer for a mixed-use development. The purpose of the action was to enhance the value of the SEFC to the United States. The SEFC EIS was completed May 28, 2004 and the Record of Decision (ROD) was signed May 17, 2005. Construction of the project, now known as The Yards, began on October 3, 2007. Upon completion, The Yards will comprise of 5.5 million square feet of new development and redevelopment including rented and owned residential units, office space, retail/dining, and a riverfront park along the banks of the Anacostia River. As stated in the ROD and SEFC EIS:

> "Development of the SEFC may include In-water Development, such as marinas, boathouses, or water-taxi facilities. However, this type of development is outside the scope of this EIS, which analyzes only reasonably foreseeable significant environmental effects that may arise from upland (land above the seawall) development at the SEFC. The effects of any In-water Development will be addressed in supplemental NEPA documentation."

At this time GSA and Forest City have initiated planning for the In-water Development and have prepared this supplemental EA to assess the effects to the natural, cultural, and human environment that may occur from the proposed In-water Development.

GSA, in coordination with Forest City, has prepared this supplemental EA to assess potential effects of the In-water Development. The proposed action includes the construction of a recreational marina and two public piers, as well as accommodations for a future water taxi operation, should such service become available. The project area footprint is an approximate

3-acre area in the Anacostia River, which is the southern boundary of The Yards. The study area includes the majority of the Capitol Riverfront neighborhood, roughly: north to the I-295, west to just beyond South Capital Street, east to just beyond the 11th Street Bridges, across the Anacostia River to the south, including points visible to and from the opposite bank of the river.

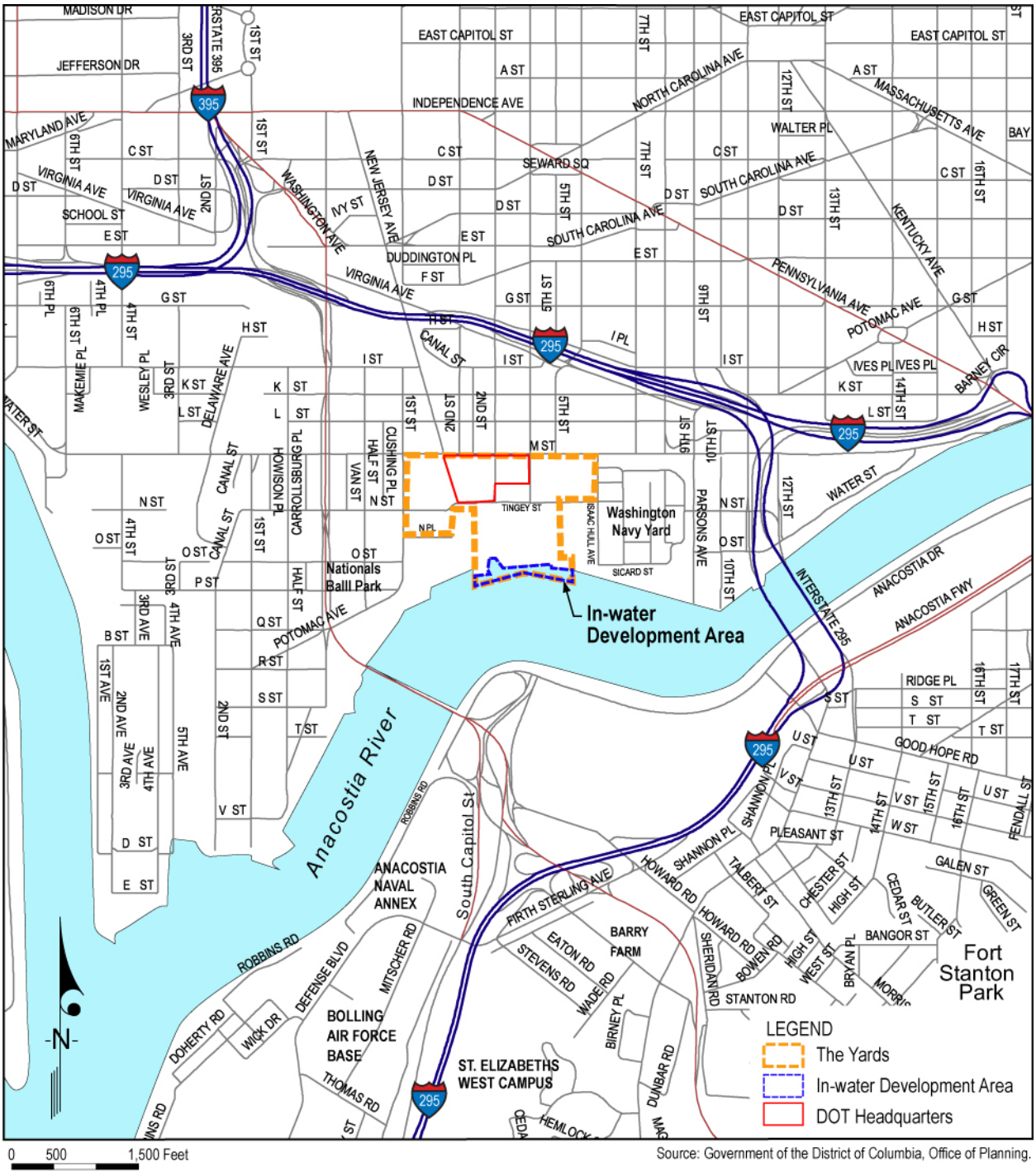

Figure 1. Location Map

1.B. Purpose and Need

The purpose of the In-water Development is to provide clear and open public access to the Anacostia waterfront and support recreational water-dependent activities from the nearby Yards Waterfront Park (scheduled for completion Fall 2010), residential, and business areas. Additional objectives of the project include supporting transient and recreational boating and accommodating a water taxi operation, if such service should become operational.

The project is needed because there is limited public access and amenities to support water dependent activities and recreational enjoyment of the waterfront along the Anacostia River. The *Washington, DC Marina Market Study* (Moffat & Nichol, 2009, Appendix A) identified a need for additional marina infrastructure (boat slips) to support current and future demands for transient and recreational boating.

The demand for boat slips in the DC marina market region is high. Marina operators have indicated lengthy waiting lists requiring several years for boaters to be offered a slip, especially for those 40 feet and greater in length (Moffat and Nichol, 2009). As such, prospective vessel owners are often forced to wait until a slip is available before purchasing the boat. Most slip leases are long-term (annual), and occupancy is reportedly above 95% market wide, and at 100% at the most popular facilities.

1.C. Background

1.C.1 Site History

Located along the banks of the Anacostia River south of the U.S. Capitol Building in Washington, DC, President Thomas Jefferson designated the Washington Navy Yard as the homeport of the U.S. Navy in 1803. With the introduction of shipbuilding to the site, rapid development of a canal system, wharves, warehouses, and refineries ensued. A portion of the Washington Navy Yard was created by filling in the marsh adjacent to the Anacostia River in the early 1900's. By the beginning of the 20th century, the Washington Navy Yard had grown and expanded west (GSA NCR, 2004).

During World War I, activities at the Navy Yard shifted from shipbuilding to weapons production. Further industrialization occurred during World War II, when the site became a center for ordnance production and the repair of damaged vessels. All ordnance production halted by 1961 and in 1962 the Washington Navy Yard was divided into two sections. The eastern part remained under the control of the Navy (the present Washington Navy Yard); the western part, known at the time as the Navy Yard Annex, was transferred to GSA in 1963 and became the SEFC site (GSA NCR, 2004).

Site use has shifted to administrative, light industrial, and storage; however, prior ordnance production and waste management contributed to onsite contamination. In the 1990's, GSA

began the process of cleaning up contaminated soil and sediment locations, as well as decontaminating and demolishing unoccupied buildings with an eye towards potential redevelopment opportunities (EPA, 2006).

In 2001, GSA prepared the *Department of Transportation Headquarters Final Environment Impact Statement,* designating an action alternative the sale of approximately 11 acres of the SEFC site to be developed by the private sector for the U.S. Department of Transportation (US DOT) Headquarters (GSA, 2001). Construction of the US DOT Headquarters project began in 2004, and occupancy of the new headquarters buildings began in 2007 (**Figure 2**).

1.C.2 Present Site

In 2004, GSA prepared the SEFC EIS, which identified the action alternative for the lease and/or sale of approximately 42 acres of the SEFC site by GSA to Forest City for construction of a mixed-use development, including a 5.5-acre waterfront park. Now known as The Yards, construction of the new development began in 2007, with build-out to be carried out in phases over the course of 20 years. The first phase is anticipated to begin in 2010. While the 2004 SEFC EIS identified the potential for In-water Development such as marinas, boathouses, or water-taxi facilities as part of the mixed-use development, in-water construction has different construction and conservation requirements than the remainder of the site. The SEFC EIS stated that any planned In-water Development would be addressed in supplemental NEPA documentation.

No historic buildings are within the In-water Development project area. The closest structure, the Lumber Storage Shed, is approximately 50 meters north of the waterfront. The nearest area of archeological potential is also located about 50 meters north of the waterfront.

A Washington Metropolitan Area Transit Authority (WMATA) access hatch and a Potomac Electric Power Company (PEPCO) electric substation are located within the boundaries of The Yards, but are not part of the completed or ongoing plans for the site. These facilities will continue to be operated by WMATA and PEPCO, respectively.

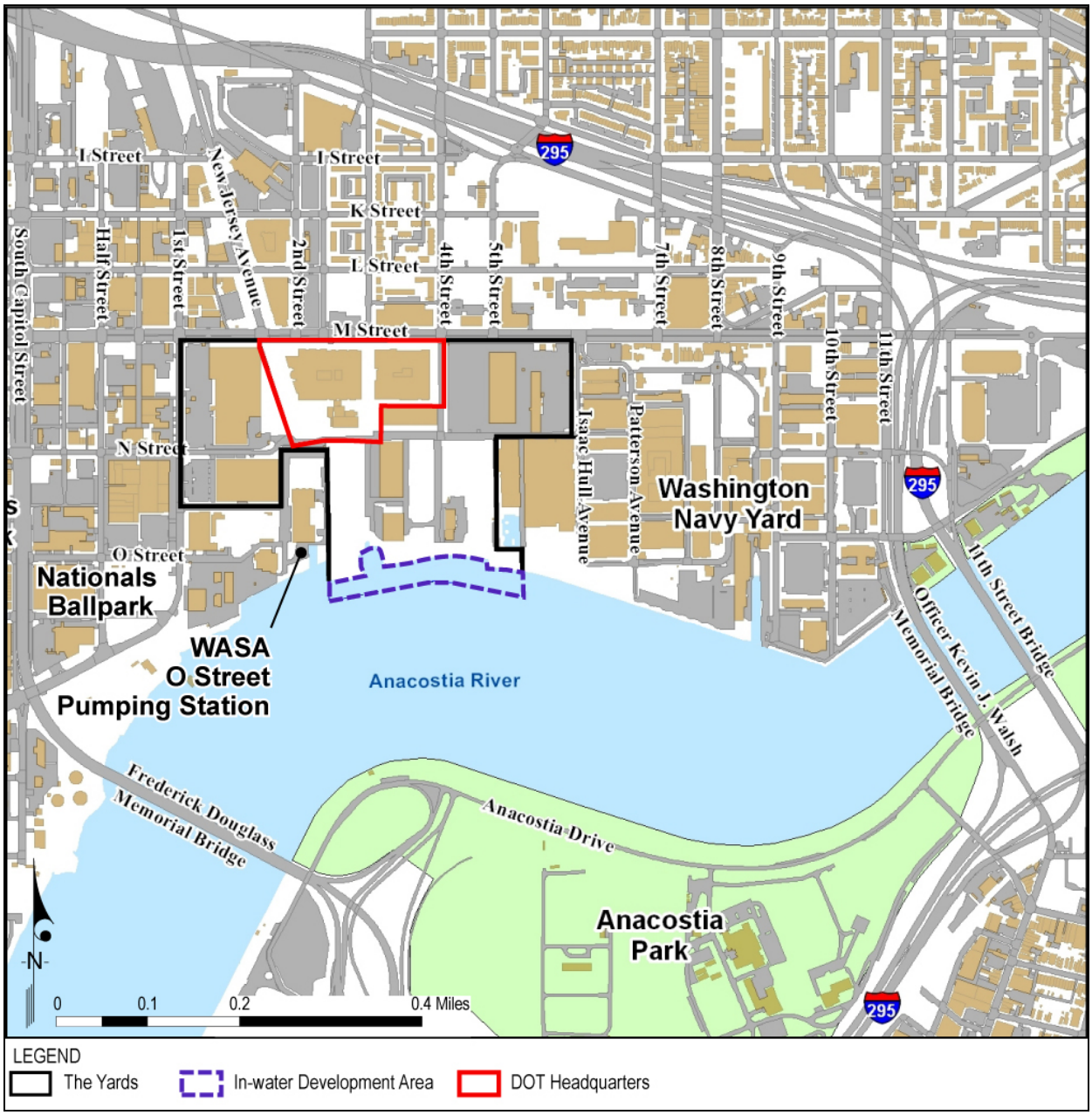

Figure 2. Site Map

The SEFC site constitutes a historic district, listed in the National Register of Historic Places as the Washington Navy Yard Annex Historic District (**Figure 3**). The site contains archeological resources determined eligible for inclusion in the National Register, as well as contributing and non-contributing architectural resources. The DC Water and Sewer Authority (WASA) Main Station and O Street pumping facility are individually listed in the National Register of Historic Places, but are excluded from the Historic District boundary. The Washington Navy Yard Historic District, located to the east and adjacent to the site, is also listed in the National Register and is a designated National Historic Landmark and a locally designated DC Landmark.

Figure 3. Washington Navy Yard Annex Historic Boundary

Potential effects to individual contributing structures and sites were identified in the SEFC EIS. On July 20, 2007, a Programmatic Agreement (PA) for the SEFC Redevelopment was signed by GSA and District of Columbia Historic Preservation Office (DC HPO), and accepted by the Advisory Council on Historic Preservation (ACHP). The acceptance completed the requirements of Section 106 of the National Historic Preservation Act for the transfer by sale and/or ground lease from GSA to Forest City for the mixed-use development of 42 acres of the SEFC (GSA, 2007a). On July 23, 2007, a Historic Covenant between GSA and the DC HPO was executed (GSA, 2007b).

The PA and Historic Covenant identified a portion of the SEFC site as the "Historic Zone", and a portion of the site as the "Redevelopment Zone". The zones are not representative of the historic divisions of the Washington Navy Yard or Navy Yard Annex, nor of the L'Enfant Plan. Instead, they represent the existing conditions and Revised Master Plan goals for the site (GSA, 2007a). The Historic Zone, which includes the waterfront area, contains five of the existing historic structures. According to the terms of the PA, the historic buildings will be rehabilitated within the Historic Zone, and new construction will be compatible with the Zone's historic context. The Redevelopment Zone includes the remaining area west of New Jersey Avenue, not including the WASA Main Pumping Station, and is occupied by non-contributing buildings. A map depicting the zones as designated in the PA and Historic Covenant is presented in **Figure 4**.

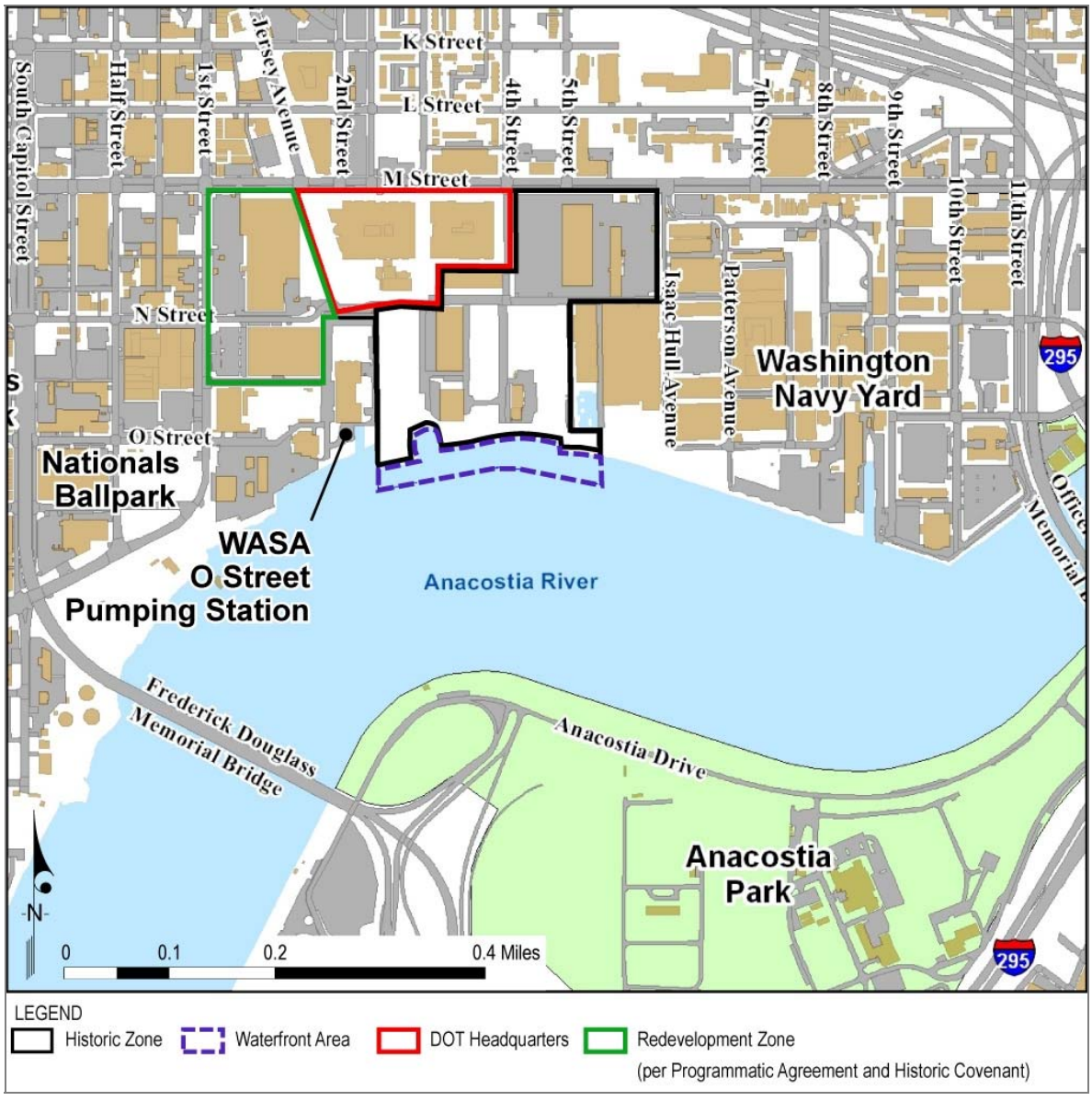

Figure 4. SEFC Historic Zone and Redevelopment Zone

1.D. Relevant Planning Policies

1.D.1 Southeast Federal Center Public-Private Development Act of 2000

The project is consistent with the Southeast Federal Center Public-Private Development Act of 2000, which authorized GSA to enter into an agreement with a private entity to develop the SEFC site (P.L. No. 106-407, 2000). It is also consistent with other area plans, such as the Anacostia Waterfront Initiative Memorandum of Understanding (MOU), which seeks to revitalize the waterfront and make it accessible to adjacent neighborhoods. Further information on District plans and initiatives can be found in Section 1.C of this EA.

1.D.2 Extending the Legacy Plan

The National Capital Planning Commission (NCPC) published *Extending the Legacy: Planning America's Capital for the 21st Century*, in 1997 as a plan to preserve the historic character and open space of Washington's monumental core while accommodating growth and development (NCPC, 1997). One element of this plan is relevant to The Yards In-water Development project. This element involves reclamation of the city's waterfront areas in order to reestablish the historical connection of Washington to its waterways. The plan proposes two distinct land uses within the vicinity of the study area; the area near South Capitol Street would become an area of restaurants, concert venues, marinas, and other types of waterfront entertainment whereas the remaining waterfront would have a more relaxed character, appropriate to its neighborhood setting and its focus on ecology and the environment. The plan also discusses a water taxi system that would link points along the Anacostia and the Potomac Rivers.

1.D.3 Washington's Waterfronts

Washington's Waterfronts: An Analysis of Issues and Opportunities along the Potomac and Anacostia Rivers was published by the NCPC in 1999 as a more detailed description of the waterfront initiatives set forth in *Extending the Legacy* (NCPC, 1999). This document divides 22 miles of waterfront into six sub-areas. The SEFC (as it is referred to in the NCPC document) is within the "Southeast Waterfront" sub-area. Objectives of this sub-area include:

- The Navy and GSA should extend the concept of the M Street Streetscape improvements into the Washington Navy Yard and the SEFC to better connect this area to the surrounding community.
- GSA and the Navy should continue their efforts to replace surface parking throughout the SEFC and the Washington Navy Yard with green space.
- The Navy and GSA should prepare a joint plan for developing the waterfront promenade through both facilities.
- Water transportation should be employed as an alternative means of transportation to serve the Washington Navy Yard, the SEFC, and other areas along the Southeast

Waterfront. The establishment of water-taxi docking facilities at the boundary of the two Federal facilities should be pursued.

- The DC Department of Housing and Community Development, GSA, the Navy, and the U.S. Department of Housing and Urban Development should work together to promote new housing along M Street, within the SEFC, and at other sites within the waterfront area.

1.D.4 Anacostia Waterfront Initiative

The Anacostia Waterfront Initiative (AWI) is an agreement between the District of Columbia, GSA, NCPC, the National Park Service (NPS), the United States Army Corps of Engineers (COE), the Environmental Protection Agency (EPA), and several other federal and district agencies to revitalize the Anacostia waterfront in the District of Columbia (DC OP, ND*a*). The AWI Memorandum of Understanding (MOU) was signed in March 2000. The partnership governs waterfront development and conservation, providing greater access to the waterfront and improved park areas. Access to the river will be provided via the Riverwalk, a component of the AWI that will provide a thoroughfare for walking, biking, and skating along the Anacostia. A total of 16 miles of riverfront along with several adjacent neighborhoods are incorporated in the AWI, including the former Near Southeast and Buzzards Point neighborhoods, now known as the Capitol Riverfront. Themes of the AWI that directly affect the project area include:

- **Restore: A Clean and Active River**
  The AWI charts the course for environmental healing and the rejuvenation of water-dependent activities on the Anacostia River. Pollution must be mitigated, run-off controlled, streams and wetlands restored, and water activities promoted.
- **Connect: Eliminating Barriers and Gaining Access**
  The AWI reconsiders the design of transportation infrastructure in order to gain access to waterfront lands and better serve waterfront neighborhoods. The community must be able to get to the waterfront on beautiful streets and bridges that become gateways to the river's parks and amenities.
- **Live: Building Strong Waterfront Neighborhoods**
  The AWI promotes sustainable economic development and re-connects the city to the river through new neighborhoods and the waterfront park system by creating opportunities to live, work, and play along the river (DC OP, ND*a*).

1.D.5 The Comprehensive Plan for the National Capital

The District of Columbia Office of Planning (DC OP) and NCPC both have jurisdiction over development in the District of Columbia. The two agencies work together to prepare the *Comprehensive Plan for the National Capital* (CPNC), which is a "statement of principles, goals, and planning policies for the growth and development of the national capital" (NCPC, 2004).

The comprehensive plan is comprised of two sections: the Federal Elements and the District Elements.

NCPC published the most recent version of the NCPC Federal Elements in August 2004. The Federal Elements are directed at existing and future federal lands and facilities in the National Capital Region, and contain recommendations for growth and development. These elements contain policy guidelines for: federal facilities, federal employment, foreign missions and international organizations, parks and open space, visitors to the Capital, natural environments, and preservation of historic features. NCPC administers the Federal Elements (NCPC, 2004). The elements relevant to the SEFC In-water Development Project include:

- Parks and Open Space: Link open space along the waterfront to provide a continuous public open space system; develop the banks of the Anacostia River as a high-quality urban park with a mix of active and passive recreational opportunities; improve the quality of water in the Anacostia and Potomac Rivers to allow for both restored natural habitats and increased recreational use; and, in urban waterfront areas that are determined appropriate for development avoid construction in environmentally sensitive areas, restore, stabilize, and/or improve and landscape degraded areas of shorelines, and limit development along or near the shoreline and integrate it with the generally low and continuous line of river embankments.
- Federal Environment: Provide for the protection and enhancement of natural resources and attain federal environmental standards for air quality, water quality, protecting and preserving aquatic and terrestrial resources, and assuring environmental justice in communities.
- Transportation: Support the development of a water taxi system serving the District of Columbia and surrounding jurisdictions to provide an alternative commuting mode, to coincide with waterfront redevelopment opportunities, and to serve waterfront attractions.

The DC OP published the most recent version of the Revised Comprehensive Plan, District Elements, in December of 2006 and is responsible for administering the District Elements. The District Elements deal strictly with land under the jurisdiction of Washington, DC. The plan addresses the policies for the physical development of Washington, DC as well as the social and economic issues that are linked to development of the city (DC OP, 2006). The relevant elements for the proposed project include:

- Environmental Protection: undertake a range of environmental initiatives along the Anacostia River to eliminate combined sewer overflows and reduce urban runoff; sustaining urban plant and animal habitat; promoting environmental sustainability in development; minimize the potential for damage, disease, and injury resulting from environmental hazards (including water and soil contamination); and reducing air pollution.

- Transportation: Development of a waterway transportation system that will extend from Children's Island on the Anacostia River to the Ronald Reagan National Airport and Old Town Alexandria, Virginia.
- Parks, Recreation, and Open Space: Establish stronger linkages between the waterfront and adjacent upland neighborhoods; maximize public access to the waterfront from these areas through the development of a riverwalk and shoreline trail, improved public transportation, redesigned bridges and freeways, and the extension of neighborhood streets and avenues to the water's edge; and require the design and planning of waterfront parks to maximize the scenic and recreational value of the rivers.

The NCPC District Elements also include plans for each of ten areas within the District. The project area is included in the plan for the Lower Anacostia Waterfront/Near Southeast. Relevant objectives of this plan include:

- Improve shoreline access and movement to and through the Near Southeast by eliminating real and perceived barriers, improving public space and street corridors, reducing the amount of land occupied by surface parking and industrial uses, and encouraging new land uses that maximize public activity near the waterfront.
- Create the Canal Blocks Park on the three blocks between M Street and I Street that once contained the historic Washington Canal. Create a waterfront park of at least five acres along the shoreline at the Southeast Federal Center. These two parks should be designed as attractions and amenities for Near Southeast residents, employees, and visitors. They should be linked to each other and to Garfield Park and the Virginia Avenue playground by trails and greenways, and connected to other waterfront open spaces by the proposed Anacostia Riverwalk Trail system.

1.D.6 Washington, DC's Green Building Act of 2006

The Green Building Act of 2006 went into effect on March 8, 2007. The act establishes new standards applicable to both private and public projects in the District, and requires compliance with the Leadership in Energy and Environmental Design (LEED) Green Building Rating System created by the United States Green Building Council. Green building is an integrated, approach to the "planning, design, construction, operation, and maintenance of buildings and their surrounding landscapes that helps mitigate the environmental, economic, and social impacts of buildings, so that they are energy efficient, sustainable, safe, cost-effective, accessible, healthy, and productive" (US Green Building Council, 2010).

The Green Building Act of 2006 phases in green building requirements in the District through 2012, requiring commercial buildings to be LEED certified, and residential buildings to meet Green Communities standards. The LEED rating system assigns points to a project for compliance with specific green building techniques or activities. To attain LEED certification, a project must earn a base number of points and meet several mandatory prerequisites for which

points are awarded by category: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation and design process. Exceeding the certification point range earns a project silver, gold, or platinum status (US Green Council, 2010). The DC Act requires either "certification" or "silver" status, depending on the project. The Act also launched a green building incentive program, a Green Building Fund, and a Green Building Advisory Council.

1.E. Resource Topics Dismissed from Further Study

Several topics were considered in the preparation of this EA, but dismissed from detailed study because the proposed action would cause negligible or no impact to the resources.

Archeological Resources

Sources that were reviewed for information on archeological resources consist of the SEFC site files maintained at DC HPO and a number of previous site-specific studies. The principal studies are a 1991 Phase I study (Engineering-Science, 1991) and 1996 study (Parsons Engineering-Science, 1996), which included both Phase I and Phase II work; both of these covered the entire SEFC property. Development of the SEFC is proceeding in accordance with the terms and conditions of a PA among GSA, with ACHP and DC HPO. Under that PA, certain areas of the SEFC are defined as having known or potential archeological resources (Archeological Sensitive Zones or ASZs), and none of those areas overlap with the proposed marina development area. The proposed marina will extend from the existing shoreline into the Anacostia River, and that riverine area has been previously surveyed for submerged archeological resources (Panamerican Consultants, 1994). Based on a review of available information, it is not expected that any archeological resources would be impacted by the proposed marina; therefore, possible effects on archeological resources are not considered in this EA. In a letter to GSA dated August 3, 2009, DC HPO agreed with GSA's determination that there is little potential for archeological resources to be impacted by the proposed marina (DC HPO, 2009). In the event of an unanticipated archeological discovery, GSA would comply with the applicable sections of the PA (Louis Berger, 2009).

Historic Structures

No historic structures would be directly impacted by the Action Alternative. The proposed action takes place entirely within the river. The nearest historic building (National Register eligible) is the Lumber Storage Shed, which is approximately 50 meters north of the waterfront. The WASA O Street Pumping Station would be unaffected. Given that the proposed action would occur below street level and below sea wall levels, views to and from historic structures would not be impacted. GSA and Forest City will continue to coordinate with ACHP and DC HPO in accordance with the terms outlined in the PA.

Floodplains

According to a Federal Emergency Management Agency (FEMA) flood insurance rate study, the 100-year floodplain elevation for The Yards site is 11.4 feet above mean sea level. The seawall ranges in height from 3.6 feet above mean sea level to 9.1 feet above mean sea level, and therefore will only stop floodwaters to a height of 3.6 feet above mean sea level. The Anacostia River is subject to frequent flooding as a result of the high percentage of impervious surface within the watershed. Flooding in the tidal Anacostia is a result of storm surges caused by hurricanes and major storms. For the 2004 SEFC EIS, the District of Columbia Department of Health (DC DOH) requested that a floodplain study be completed to determine the potential effects of the proposed development on the floodplain (Wigmore and Franco, 2004). This type of study must demonstrate that the new development would not restrict the floodplain during a 100-year flood. However, GSA did not complete the study because, "flooding along the Anacostia River is generally not caused by high freshwater riverine flow, but rather by tidally influenced storm surges" (GSA NCR, 2004). Flooding caused by tidal surges is not influenced by floodplain restriction, and therefore GSA concluded that the floodplain study would not be necessary and it was not conducted as a part of the 2004 SEFC EIS.

Subsequently, Forest City put in a request to FEMA for a Letter of Map Revision (LOMR) of The Yards site based on coastal analysis, hydraulic analysis, and new topographic data. The Flood Insurance Rate Map for The Yards site was altered on October 30, 2009 in a Letter of Map Revision Determination Document (FEMA, 2009). The revised map panel is presented as **Figure 5**.

Executive Order (EO) 11988 requires federal agencies to avoid adverse effects associated with the occupancy and modification of floodplains to the extent possible, thereby minimizing flood risk and risks to human safety (FEMA, 2006). This EO is further detailed in GSA Order ADM 1095.6. However, because the proposed action will occur entirely within the Anacostia River, and effects to floodplains were included in the SEFC EIS, floodplains were dismissed from further analysis in this EA.

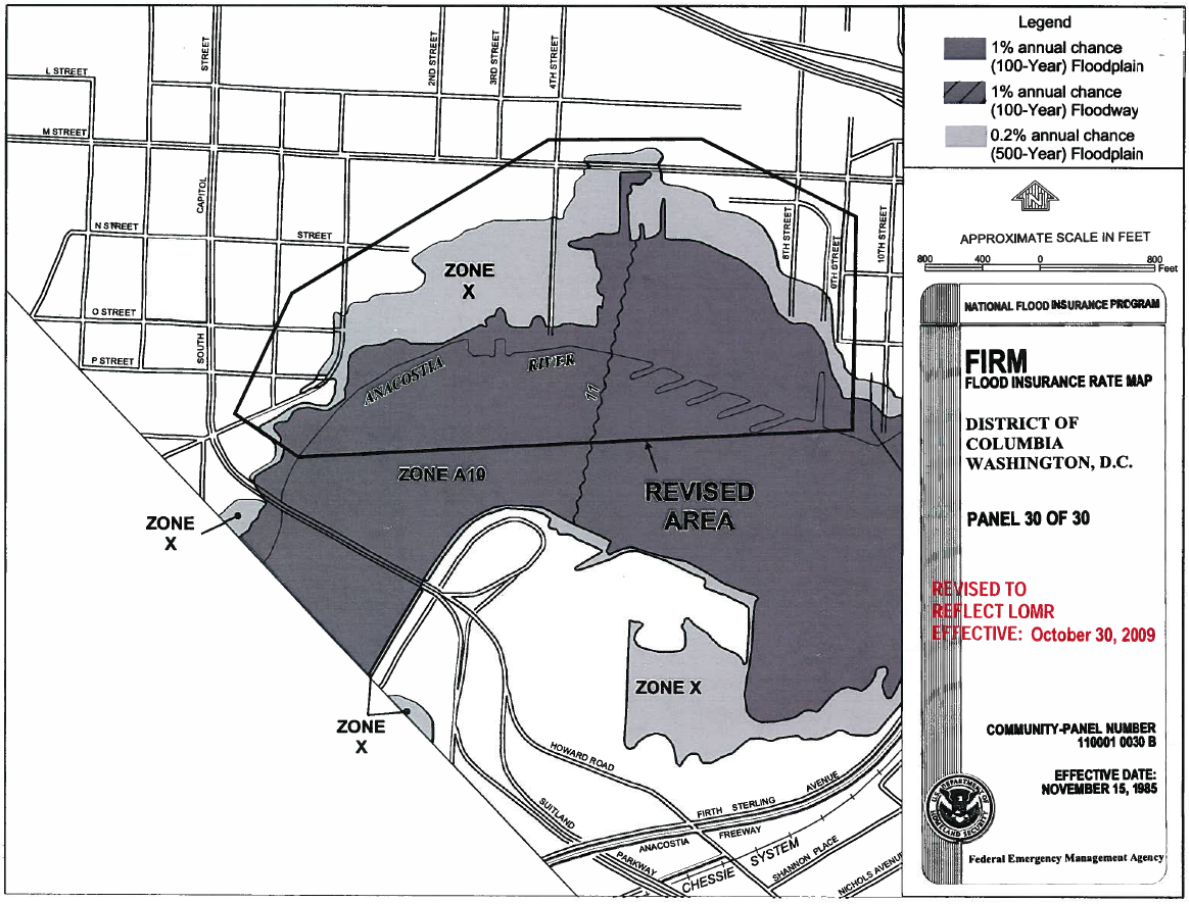

Figure 5. Flood Insurance Rate Map

Topography, Geography and Soils

The portion of the proposed project area upland of the seawall is characterized by low relief and gently sloping topography. It is located in the Atlantic Coastal Plain Physiographic Province. A subsurface condition study was conducted by GSA in 2001, and found that area behind the seawall consists entirely of fill materials to a depth of 20 feet (GSA, 2004). Minor ground disturbance would likely occur during construction. Effects to soils, geology, and topography would be negligible, and these topics have been dismissed from detailed study because no excavations, grading, or filling would be necessary.

Vegetation

Based on field observation in January 2009, no naturally occurring vegetation exists on The Yards site. Therefore, vegetation was dismissed from detailed consideration in this EA.

Wetlands

The COE defines wetlands as "areas saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). Based on field observation conducted in January 2009, no vegetated wetlands are present landside of the project area. Any naturally occurring wetlands at the site have been eliminated by past construction activities, including the construction of the seawall. Therefore, wetlands were eliminated from further study in this EA.

Coastal Zone Management

The District of Columbia does not have a designated Coastal Zone, and is exempt from the conditions of the Coastal Zone Management Act, including the development of a Coastal Zone Management Plan. This topic was removed from further analysis.

Land Use and Zoning

The zoning regulations in Washington, DC are established and enforced by the District Office of Zoning, the Zoning Commission, and the Board of Zoning Adjustment. There is no land use assigned to the river; therefore this topic has been dismissed from further study. The Yards land adjacent to the river is zoned W-0, waterfront zoned for open space uses including boathouses, marinas, and yacht clubs. A new marina is consistent with the zoning for the location, and this topic was dismissed from further analysis.

Population, Housing, Income, Employment, and Education

The construction and maintenance of a marina at The Yards would not result in an increase, decrease, or change in population, housing, or education within the community. Any changes in income or employment as a result of construction and operation of the proposed marina would be negligible in the context of the study area. Therefore, these topics were not studied in further detail in this EA.

1.F. Resource Topics Studied in Detail

Resources of concern that would potentially be affected, either beneficially or adversely, by the alternatives were studied in detail. Resource topics were identified based on initial scoping efforts, as well as Federal laws, regulations, Executive Orders, related documentation, such as the SEFC EIS, desktop research, and field review. In order to address the requirements of the NEPA, specific resource topics were analyzed in detail to compare the environmental consequences of the No-Action Alternative and the Action Alternative.

Wildlife

The Anacostia River supports fish, macroinvertebrates, and birds, which could potentially be affected by the proposed action.

Water Resources

Construction in the Anacostia River is subject to federal and state laws. Section 404 of the Clean Water Act, administered by the COE, regulates water quality standards and discharges of pollutants into the waters of the United States. A Section 404 permit would be required prior to the construction of a marina. The Anacostia River is considered a navigable waterway under the Rivers and Harbors Appropriation Act of 1899. Section 10 of the Act requires approval by the COE prior to any excavation or fill within navigable waters.

Visual Resources and Aesthetics

Views to and from the Anacostia River and surrounding areas have the potential to be altered with the addition of a new marina at The Yards. Therefore, this topic is studied in detail in this EA.

Neighborhood Character and Community Facilities

The construction of a marina and public piers at The Yards would provide a recreational facility at the Anacostia River not previously available, and may also contribute to the neighborhood character. Therefore, these topics have been retained for detailed study.

Public Safety

A public marina at The Yards would contribute to the existing and planned community public safety services in the new Capitol Riverfront neighborhood of the District. Therefore, Public Safety has been retained for detailed study.

Environmental Justice

Potential effects to minority and low-income populations are studied in further detail in this EA.

Infrastructure

A new marina at The Yards could affect utilities as a result of increased demand. In addition, WASA and WMATA maintain facilities within and nearby the boundaries of The Yards. Therefore, infrastructure was retained for more detailed study in this EA.

Transportation and Circulation

The new marina at The Yards has the potential to impact transportation in the lower Anacostia River, which is used by both motorized and non-motorized boats. The marina itself would also

include facilities to accommodate a water taxi operation, should such service begin in the future, and would also provide access to the Anacostia River, attracting pedestrians from nearby landside locations to the water.

Air Quality

Because the proposed action has the potential to affect air quality through increased emissions during construction and daily marina operations, air quality was studied in further detail in this EA.

Noise Levels

Noise levels would likely increase during construction of the proposed marina, and noise was retained for further study in this EA.

Hazardous Materials

Sediment in the Anacostia River within the area of the proposed marina contains known contaminants, based on previously conducted sediment sampling and analysis. In-water construction activities have the potential to disturb sediments. Therefore, Hazardous Materials was retained for more detailed study in this EA.

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2. DESCRIPTION OF ALTERNATIVES

This section describes Forest City's alternatives for the In-water Development at the Yards. Alternatives for this project were developed to provide clear and open public access to the Anacostia waterfront and support recreational water-dependent activities from the nearby Yards Waterfront Park (under construction), residential, and business areas. In this EA, GSA considered in detail two alternatives: the No-Action Alternative and the Action Alternative. GSA's staff explored a number of other alternatives; however, they were either not reasonable or feasible, or were eliminated due to their limited potential to meet market demand.

2.A. No-Action Alternative

Under the No-Action Alternative, Forest City would not construct a recreational marina and two public piers, or facilities to accommodate a future water taxi operation. Although the No-Action Alternative would not meet the purpose of and need for the project, NEPA requires consideration of the No-Action Alternative as a baseline for evaluating environmental effects of the action alternative. The No-Action Alternative also serves as a basis for determining whether the public benefits of the proposed action outweigh the probable environmental effects.

2.B. Action Alternative Considered in Detail

Several action alternatives were initially developed for initial review and consideration. In order to establish project design boundaries, each action alternative was based on varying distances or "setbacks" from the Anacostia River Federal Navigation Channel (FNC). The FNC is a dredged channel within the Anacostia River, and is maintained by the COE. The COE recommends a standard 3:1 setback from the FNC in the Anacostia River. The FNC is presented in **Figure 6**.

The design team coordinated with the COE when developing the preliminary alternatives for the proposed marina. All of the alternatives include a commercial pier and a public pier to meet the purpose of and need for the project. A number of slip and pier configuration options were developed for each alternative to help determine which combination would maximize available space for public piers and boat slips. The commercial and public piers in the alternatives were developed with various lengths and configurations of the piers, as well as different types of access to the fixed piers. In all cases, the location of the WMATA subway tunnel was used as a marina footprint constraint.

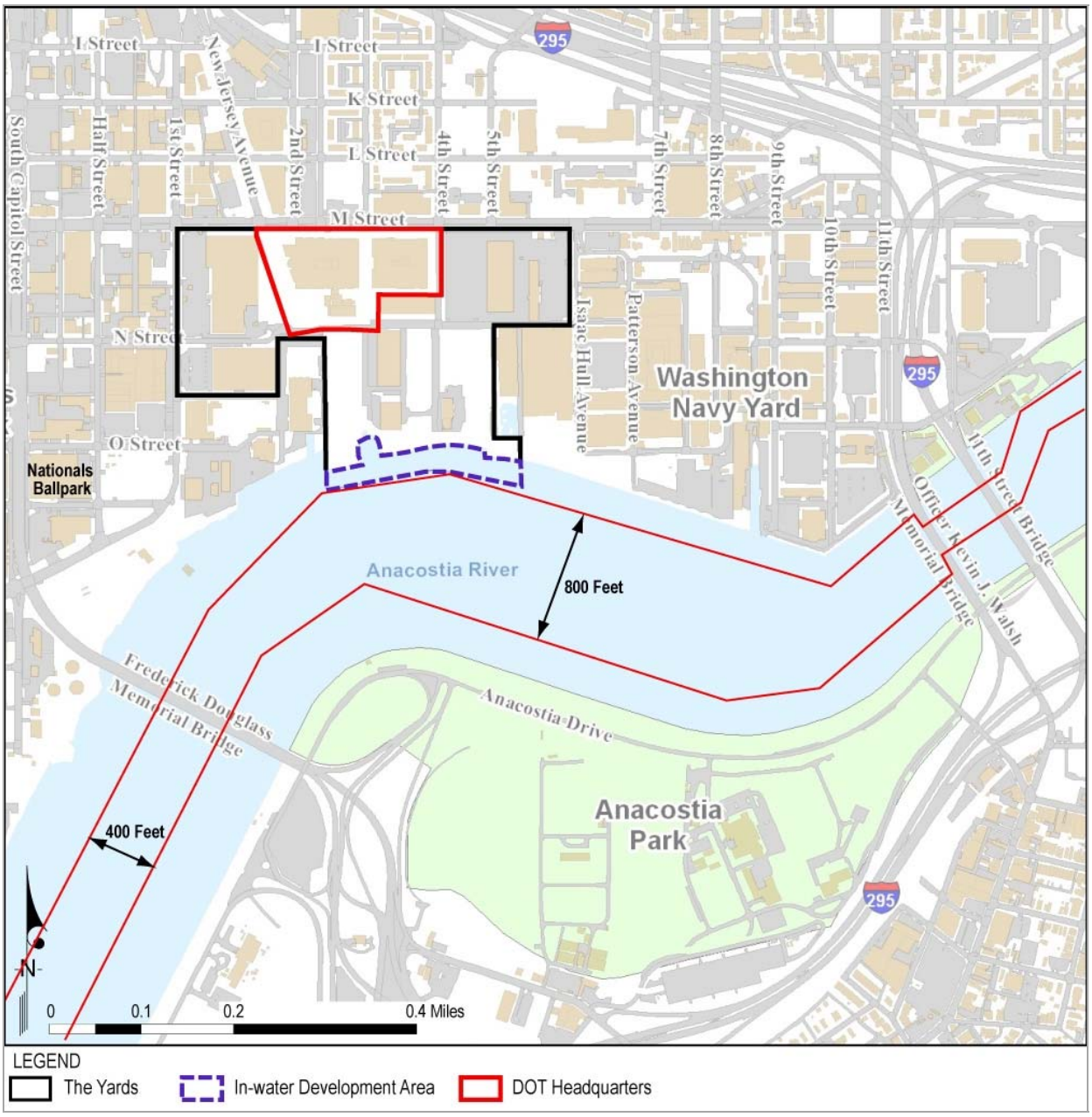

Figure 6. Federal Navigation Channel

2.B.1 10-Foot Setback Alternative (Action Alternative)

The 10-Foot Setback Action Alternative spans approximately 3 acres of water on the Anacostia River, with the actual design footprint of approximately 0.6 acre (27,000 square feet). The marina design includes:

- one commercial fixed pier of approximately 185 feet x 30 feet
- one public fixed pier of approximately 135 feet by 30 feet; and
- 49 boat slips.

Construction of the piers would require pile driving into the river bed. Access to the fixed piers would be at-grade from landside. The piers would be accessible from the public waterfront park, the Riverwalk Trail, and the Anacostia River. The public pier would accommodate fishing and recreational use.

The commercial fixed pier would accommodate touring vessels, and could also accommodate a future water taxi service. Should such service commence, a gangway from the fixed pier landing to a floating pier could be constructed, with the floating pier serving as the landing for the water taxi vessel (**Figure 7**).

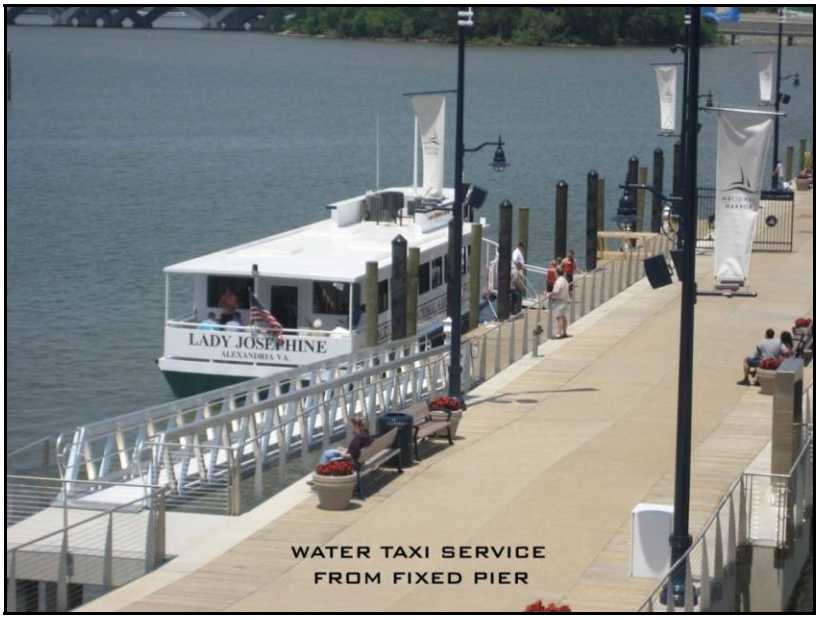

Figure 7. Example of Water Taxi Access from Fixed Pier

Each of the 49 boat slips would be 40 feet long; approximately 12 of the slips would have the potential to be increased to 50 feet. The marina would serve residents living at The Yards, one-day transient vessels, and recreational visitors.

Amenities available for use by each vessel include lighting, potable water, a sewer pump-out station, marina utility power pedestals for water and electrical hookup services (**Figure 8**), and solid waste collection. The office for marina operations would be incorporated into the approved Master Plan for The Yards and does not constitute new construction. Additional amenities such as office space for marina operations, parking, shops, and restaurants are included as a part of the approved Master Plan for the upland development of The Yards (Forest City, 2006). A boat ramp would not be included at the facility, nor would boat storage, repair yard, etc. Boaters renting slips at the marina would be required to use other facilities for these services.

Photo credit: Power Marine Center

Figure 8. Marine Power Pedestals

The Action Alternative would best meet the purpose and need for the project because it would provide clear and open public access to the Anacostia waterfront, as well as support recreational water-dependent activities such as fishing and recreational boating. Further, the commercial pier would be built to accommodate a future water taxi stop should a water-taxi service become available on the Anacostia River. The 10-Foot Setback Alternative allows for the maximum number of slips (49) and the maximum length for the commercial and public piers, while remaining outside of the FNC boundary.

A graphic depicting the layout of the 10-Foot Setback Action Alternative is presented in **Figure 9** at the end of this chapter**.**

2.C. Alternatives Considered but Dismissed

Each setback alternative was evaluated, and several were removed from further consideration based on a combination of factors. While each alternative would meet the purpose of and need for the project, several alternatives were eliminated from further study because they were not reasonable or feasible. Others were eliminated due to their limited potential to meet market demand, as analyzed in the Washington, DC Marina Market Study (Moffat & Nichol, 2009).

Floating pier options were also removed from further consideration because they present a challenge for commercial and public uses due to the length of gangways that would be required to meet the Americans with Disabilities Act (ADA) Standards. Designs with fixed piers were preferred.

Alternatives considered but dismissed from detail analysis include:

72-Foot Setback Alternative – The FNC is 24 feet deep at the point where it crosses in front of The Yards. The COE recommends a standard 3:1 setback from the FNC in the Anacostia River. Therefore, the 72-Foot Setback Alternative would be consistent with the 3:1 setback standard.

Several design options were considered within this footprint. However, the space available for design at this setback severely restricted the number of potential slips and limited opportunities for future growth. With shorter piers for public use, and a maximum of only 10 available boat slips for recreational and transient boaters, this was not considered a reasonable alternative for a viable marina, and was therefore dismissed from further consideration.

25-Foot Setback Alternative – During coordination between the design team and the COE, representatives of the COE indicated that they would be agreeable to consideration of alternatives with setbacks below the 3:1 standard ratio. The 25-Foot setback was assessed because it would provide larger recreational piers and more boat slips than the standard 3:1 setback. However, the available space at this setback from the FNC also restricted the number of potential slips and limited opportunities for potential future growth. With a maximum of 20 available boat slips, this footprint would not support the anticipated use of the marina. Therefore, the 25-Foot Setback Alternative was dismissed from further study.

No Setback Alternative – The project boundary would be straddling or inside the FNC, allowing for the most boat slips possible. A design footprint that either straddles or encroaches into the boundary of the channel would require de-authorization of the FNC. The process can only be accomplished through an Act of US Congress, and therefore was considered unreasonable and therefore not a feasibly foreseeable action.

Table 1. Comparison of Alternatives

Resource	No-Action Alternative	Action Alternative	Mitigation Measures
Natural and Biological Resources			
Wildlife	No effect.	Minor, short-term, direct, adverse effects would occur during construction. Minor, long-term, indirect, adverse effects would occur to affected animal populations in the river due to increased boat activity at the marina. A minor, long-term, direct, beneficial effect would occur as the piers would create new habitat for fish. The effects on the endangered long-nose sturgeon are expected to be negligible.	BMPs such as turbidity curtains or bubble curtains would offset sediment disturbance and shock waves from pile driving. No in-water construction would occur between February 15th and June 15th, anadromous fish spawning season.
Water Resources	No effect.	Negligible to minor, short-term and long-term direct adverse effects would occur due to potential sediment transport during construction, a small increase in impervious surface, and minor increase in motorized boat traffic.	BMPs such as turbidity curtains would minimize sediment transport; pump-out stations would allow for proper disposal of sewage from boats; and trash receptacles would be available for solid waste.
Socio-Economic Resources			
Aesthetics and Visual Resources	No effect.	Minor, long-term, direct adverse effect to views to and from the Yards site would occur with the introduction of new piers and boat slips to the viewshed. Temporary short-term direct adverse effects would occur during construction.	No mitigation measures.

Resource	No-Action Alternative	Action Alternative	Mitigation Measures
Neighborhood Character and Community Facilities	Moderate adverse effects to the community would occur because the No-Action Alternative would not provide a public marina or open access to the Anacostia River.	A minor long-term beneficial effect would occur with the added connectivity of the neighborhood to the Anacostia River. The increase in boat slips to the currently underserved boating community would have a minor long-term beneficial effect on neighborhood character and community facilities.	No mitigation measures.
Community Services	No effect.	A negligible to minor long-term adverse effect would occur due to a minor increase in the need for emergency services as more residents and visitors utilize the public piers and marina.	No mitigation measures.
Environmental Justice	No disproportionate effects would occur to low-income or minority populations, however, a minor adverse effect would occur since the new community recreational facility would not be constructed.	A moderate long-term beneficial effect to the entire community, including environmental justice populations would occur by the adding of a recreational facility accessible to the general public.	No mitigation measures.
Infrastructure	No effect.	Minor, long-term, adverse, direct effects would occur due to an increase in electrical power use and water use. Minor, long-term, direct, adverse effects to wastewater as the pump-out stations would add volume to the wastewater treatment system. Minor, long-term, direct, adverse effects due to a small increase in solid waste.	No mitigation measures.

Resource	No-Action Alternative	Action Alternative	Mitigation Measures
Transportation and Access	No effect.	Minor, long-term, direct, adverse effects to water transportation safety would occur due to an increase in motorized boat traffic cutting across the river, which may conflict with non-motorized boat traffic.	No mitigation measures.
Air Quality	No effect.	Minor, short-term, direct, adverse effects would occur from construction activities. Minor, long-term, direct, adverse effects would occur from the addition of vehicle emissions from boats.	Water would be used to control airborne dust in active grading areas and material stockpiles, and minimization of emissions through the use of commercial power over portable generators, when possible, to reduce temporary effects to air quality.
Noise Levels	No effect.	A moderate short-term direct adverse effect would occur from construction noise. A long-term minor direct adverse effect would occur due to the increase in noise from the boats utilizing the marina.	Noise controls would be used to reduce the impact of construction equipment. Time restrictions on construction activities would be adhered to, as established by the DC Noise Control Act.
Hazardous Materials	No effect.	A minor short-term direct adverse effect would occur because of the minor release of sediments with known contaminants presenting a low risk to the human environment.	In the event any amount of bottom sediment needs to be disposed of, GSA and Forest City would require that the contractor conduct appropriate sediment testing to determine treatment and disposal requirements. GSA and Forest City would also require the contractor to identify worker protection requirements for sediment dewatering, loading, and transport.

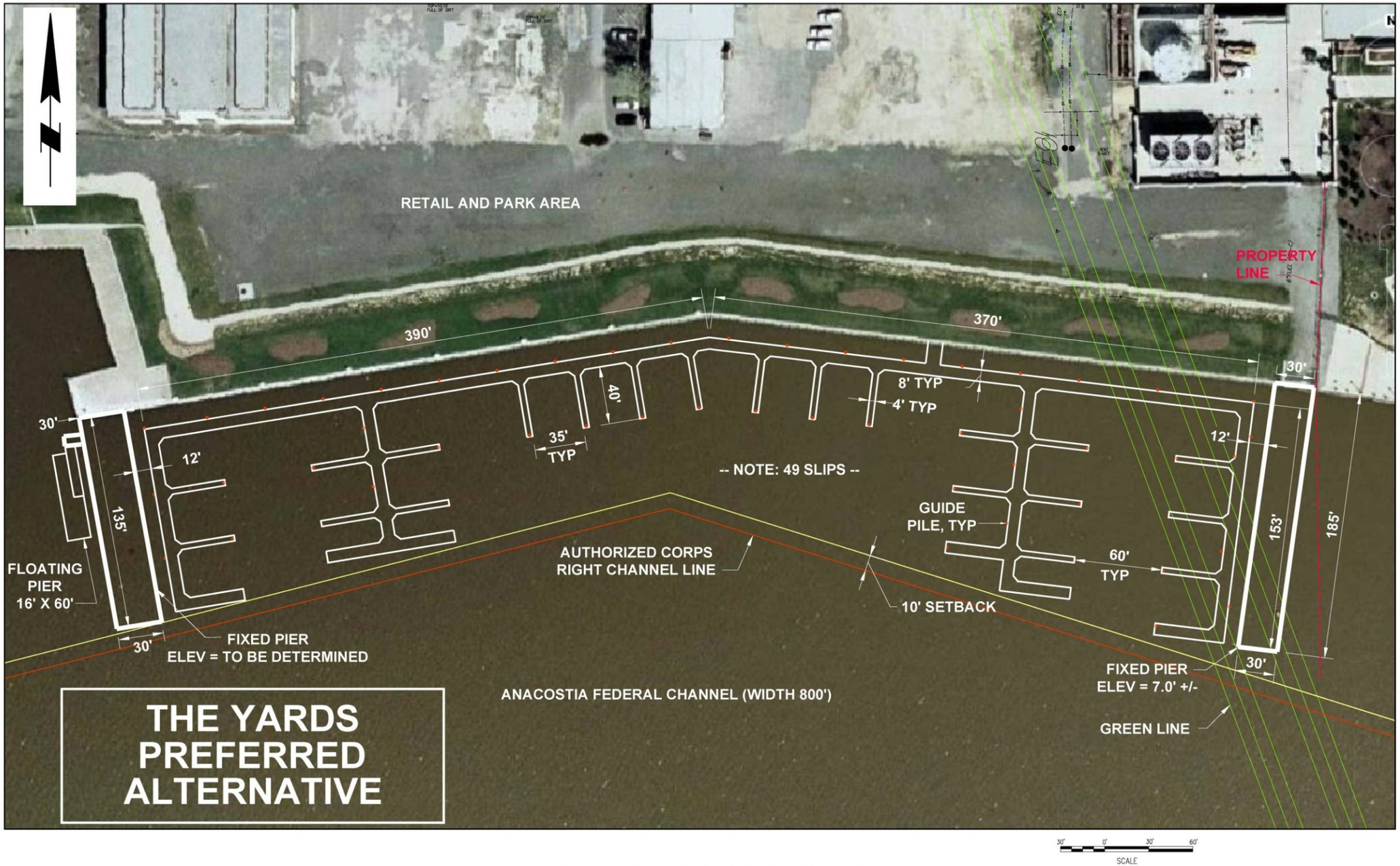

Figure 9. 10-Foot Setback Action Alternative

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3. AFFECTED ENVIRONMENT

This section provides a description of the current natural, social and economic environments for The Yards In-water Development study area. The purpose of this chapter is to provide sufficient information about existing conditions to evaluate the potential impacts of the proposed action on the human environment.

3.A. Natural and Biological Resources

3.A.1 Wildlife and Biological Resources

Wildlife habitat in the vicinity of the project area is limited by the highly urbanized environment and long history of industrialization and environmental contamination. The Yards supports only wildlife that thrives around human development, including pigeons, rats, starlings, house sparrows, and seagulls. The In-Water Development project area does not support terrestrial wildlife, but would support birds, fish, and benthic invertebrates.

3.A.1.a. Protected Species

During the preparation of the SEFC EIS, letters were sent to the U.S. Fish and Wildlife Service (USFWS) and the District of Columbia Natural Heritage Program requesting information on rare, threatened, or endangered (RTE) species within the vicinity of the SEFC campus. Formal responses from the agencies indicated that no RTE species exist within the study area, with the exception of occasional transient individuals known to exist in the surrounding area. Two federally protected species occur within the Anacostia River watershed: the American bald eagle (*Haliaeetus leucocephalus*) and the shortnose sturgeon (*Acipenser brevirostrum*). The American bald eagle, currently protected under the Bald and Golden Eagle Protection Act, does not occur at The Yards site.

The shortnose sturgeon is protected under the Endangered Species Act and is currently listed as federally endangered, although its status was scheduled for review in 2009 (NOAA, ND). As of the date of this document, the status review had not been completed. GSA consulted with the National Marine Fisheries Service (NMFS) in accordance with Section 7 of the Endangered Species Act regarding potential effects of the project on the shortnose sturgeon. NMFS recommends that should dredging be necessary for the project, it be restricted during migratory fish spawning period from February 15 through June 15 (NOAA, 2009). However, in a 2009 letter from NMFS, Protected Resources Division, to GSA, it is stated:

> "the federally endangered shortnose sturgeon is known to be present in the Chesapeake Bay…despite an extensive sampling program in the Anacostia River which has occurred between February and November every year since 1991, no shortnose sturgeon have been documented in this river. The Anacostia River is largely a degraded system with a

disturbed benthic community providing little to no suitable sturgeon forage items. There is also no habitat within the Anacostia River that could be considered suitable shortnose sturgeon spawning habitat. The river also does not have any deep holes which would be used by shortnose sturgeon for overwintering, resting, or as thermal refugia in the summer months. Shortnose sturgeon use of the river is likely further precluded by low dissolved oxygen levels in the river during the summer. Based on the best available information, it is unlikely that shortnose sturgeon use the Anacostia River for foraging, overwintering or spawning. While an occasional transient shortnose sturgeon may be present near the confluence of the river with the Potomac River, sturgeon presence in the Anacostia River is likely to be rare".

3.A.1.b. Wildlife in the Project Area

Seagulls are the most visible wildlife on the SEFC, often resting in large numbers along the shoreline.

Fish species in the tidal Anacostia include catadromous: species which live in freshwater and migrate to saltwater to spawn; anadromous: species which live in marine or estuarine waters but migrate to freshwater to spawn; and resident inhabitants of the freshwater tributaries and main channel (NOAA, 2007). The fish community fluctuates greatly throughout the year as a result of the tides and seasonal changes. Spawning and reproductive activities are affected by water temperature and therefore affect populations on a seasonal and yearly basis. Even resident fish will move in the winter to avoid severe temperatures. In order to protect spawning fish, DDOE has restricted in-water construction activities annually from February 15th to June 15th. No in-water construction is allowed during this period.

Table 2 lists the fish species most abundantly found in the Anacostia River within the vicinity of the project. It is not inclusive of all fish species observed in the Anacostia River.

Table 2. Anacostia River Fish Species

Fish Species Type	Scientific Name
Anadromous Species	
Blueback herring/alewife	*Alosa* spp.
White perch	*Morone Americana*
Gizzard shad	*Dorosoma cepedianum*
Striped bass	*Morone saxatilis*
Estuarine/Euryhaline Species	
Banded killifish	*Fundulus diaphanus*
Inland silverside	*Menidia berylina*
Mummichog	*Fundulus heteroclitus*
Freshwater Resident Species	
Pumpkinseed	*Lepomis gibbosus*
Brown bullhead	*Ameiurus nebulosus*
Spottailed shiner	*Notropis hudsonius*
Source NOAA http://mapping2.orr.noaa.gov/portal/AnacostiaRiver/natresources_fish.html, 1994	

3.A.1.c. Wildlife near the Project Area

Several animal species occur within Poplar Point, a park owned by the NPS located on the eastern shore of the Anacostia River, directly across the river from the In-water Development project area. The NPS reports 67 avian species and 15 mammalian species at this location (NPS, 2007).

3.A.2 Water Resources

Water resources within the project area include the Anacostia River and its floodplain. Construction in waterways and wetlands is subject to federal and state laws. The Clean Water Act of 1972, as amended, regulates water quality standards and discharges of pollutants into the waters of the United States. Section 404 of the Clean Water Act regulates the discharge of dredged or fill materials into navigable waters of the U.S. The regulations under Section 404 are administered by the COE. The Anacostia River is, by definition, a navigable water way.

The Rivers and Harbors Appropriation Act of 1899, Section 10 requires a permit to be obtained from the COE for the construction, excavation, or deposition of materials in, over, or under waters of the U.S., or any work which would affect the course, location, condition, or capacity of those waters. The Anacostia River, inland to the mean high water line, falls under Section 10 jurisdiction.

The Anacostia River is a tributary to the Potomac River, which drains to the Chesapeake Bay. The project area is located approximately two miles upstream from the convergence of the Anacostia and Potomac Rivers. The Anacostia River extends upstream another six miles northeast, to the convergence of the Northeast and Northwest Branches. The 176 square mile Anacostia Watershed is highly urbanized, with 60 percent of the land area being developed. The remaining land area is about 25 percent forested, 7 percent agriculture and 7 percent park land (AWRP, 2000). The land adjacent to The Yards campus is completely developed. The 8.4-mile stretch of the Anacostia River south of the Northeast and Northwest Branch convergence is tidally influenced. The tides within the project area typically range from one foot below mean sea level to two feet above mean sea level.

3.A.3 Water Quality

In the District, the Anacostia River has the designated beneficial uses of: Class A- primary contact recreation, Class B- secondary contact recreation, Class C- protection and propagation of fish, shellfish, and wildlife, and Class D - protection of human health related to consumption of fish and shellfish, and; Class E- navigation (DOE, 2002). Up river in Maryland, the Anacostia River is designated as a Use I-P, II, III, and IV waterbody (MDE and DOE, 2008). These uses are defined as follows: Use I-P – Water Contact Recreation, Protection of Aquatic Life and Public Drinking Supply; Use II: Tidal Waters: Support of Estuarine and Marine Aquatic Life and Shellfish Harvesting Use III – Natural Trout Waters; and Use IV – Recreational Trout Waters.

Section 303(d) of the Clean Water Act (CWA) requires States, in this case, the District, to identify Impaired Waters, where specific designated uses are not fully supported. For these Impaired Waters, states must consider the development of a Total Maximum Daily Load (TMDL) or other strategy to reduce the input of the specific pollutant(s) impacting designated beneficial uses, in order to restore and protect such uses. DC's Section 303(d) List divides the Anacostia within the District's borders into two segments. The lower Anacostia extends from the mouth of the river to the John Philip Sousa Bridge and Pennsylvania Avenue. The upper Anacostia is the portion of the River from the bridge to the MD border. DC has classified the Anacostia for current and designated uses including category C: "Protection and propagation of fish, shellfish and wildlife." The upper and lower segments of the Anacostia were listed on DC's 1998 Section 303(d) List as impaired by biochemical oxygen demand (BOD), bacteria, organics, metals, TSS, and oil and grease (MDE and DOE, 2007). The Yards In-water Development is located in the lower segment of the Anacostia River.

The Anacostia River in DC is currently listed as an Impaired Water for the following contaminants: nutrients, suspended sediment, toxics, trash, oil and grease, fecal coliform, and polychlorinated biphenyls (PCBs). Six TMDLs have been completed for the Anacostia River and its tributaries in the District of Columbia for:

- bacteria (Approved August 2003),
- organics and metals (Approved September 2003),
- oil and grease (Approved October 2003),
- PCBs (Approved October 2007),
- sediment/Total Suspended Solids (Approved July 2007), and
- nutrient/Biological Oxygen Demand (Approved June 2008),

The Anacostia River has been degraded over the past 300 years by sedimentation and industrial pollution. Although it has been designated by DDOE as Class A waters for primary contact recreation, the Anacostia River does not currently meet this designated use, defined as "for those water contact sports or activities that result in frequent whole body immersion or involve significant risks of ingestion of the water" (DC DOH, 2005). The majority of pollutants entering the Anacostia River enter upstream of the project area through Combined Sewer Overflow (CSOs) and non-point source pollution. It is estimated that six percent of the pollutant load entering the river comes from CSOs. There are thirteen CSOs on the Anacostia River, nine of which are upstream of the project area (WASA, ND*a*). In addition to CSOs, nutrient loads in the Anacostia River come from a variety of sources including stormwater runoff, subsurface drainage, erosion and in-stream scour, and industrial and municipal point sources. Additional water quality issues are discussed in Section 3.F Hazardous Materials.

3.B. Socioeconomic Resources

The Yards In-water Development Project is located in Washington, DC's new Capitol Riverfront neighborhood, part of which includes the old Near Southeast neighborhood. Prior to the 2000 Anacostia Waterfront Initiative and the ensuing redevelopment, the former Near Southeast neighborhood was home to many abandoned, deteriorating, run-down buildings, as well as vacant lots (GSA, 2004). Bound by the Anacostia River at the south, South Capitol Street at the west, and the Southeast Freeway (I-295) at the north and east, extending eastward to the convergence of I-295 and the Anacostia River, these natural and artificial barriers have served to isolate this area from the surrounding neighborhoods for a number of years, despite its close proximity to the U.S. Capitol (DC OP, 2003).

However, this has changed in recent years. A 1995 Base Realignment and Closure (BRAC) brought 7,500 new employees to the Washington Navy Yard, bringing the total to 13,000. Adoption of the Anacostia Waterfront Initiative by the District in 2003 (described in more detail in Section 1.D.3 of this EA) also brought a renewed interest to the area. This framework plan to clean up the Anacostia River, increase access to the river, target areas for new development, and other goals, has largely contributed to beginning a cycle of renewal throughout the area.

In the last several years, the Capitol Riverfront neighborhood has been the recipient of over $1 billion in public investments and over $2 billion in private investments. On October 22, 2007, the Capitol Riverfront Business Improvement District (BID) was formed. The BID covers all of

the Near Southeast and Buzzards Point in Southwest, and actively collaborates and forms partnerships to achieve the vision and development for the area (Capitol Riverfront, 2009a). The name "Capitol Riverfront" was developed as the BID formed.

The new Capitol Riverfront neighborhood covers a 500 acre area, with 1.5 miles of Anacostia River frontage and stretching north to the U.S. Capitol. Some of the prominent landmarks in the new neighborhood include the U.S. Navy Yard, the new U.S. Department of Transportation Headquarters, Nationals Park, Capitol Quarter Townhouses, and The Yards.

Currently, the mixed-use community is home to 35,000 daytime employees in 6.2 million SF of office including the U.S. Navy and U.S. Department of Transportation, 3,000 residential units including apartments, condos, co-ops and townhouses, a 200-room Courtyard by Marriott, and the 41,000 seat Nationals Park. A summary of completed and planned development as of October 2009 is presented in **Table 3**.

Table 3. Capitol Riverfront Neighborhood Development Summary

Estimated Delivery	Office Sq. Ft.	Retail Sq. Ft.	Residential Units	Hotel Rooms	Total Sq. Ft.	Estimated Total Cost
Existing/Completed	6,522,967	150,280	2,347	204	10,205,493	$2.3 billion
Under Construction**	379,000	31,000	250	0	713,000	$287 million
Planned	8,704,780	850,655	5,612	921	24,252,865*	$6.2 billion
Totals	15,606,747	1,031,935	8,209	1,125	35,171,358*	$8.7 billion

Source: Capitol Riverfront BID, October 2009
* Total sq. ft. numbers include the allowed zoning by right on lots where a building program has not yet been determined.
** Includes both projects under construction and paused projects scheduled to resume construction in the near term (next 6 months)

3.B.1 Aesthetics and Visual Resources

The area of visual influence a project may have on its surrounding environs is determined by estimating the visibility of the proposed action to viewers from public places. Factors that help determine the viewshed include the scale of a project, its proposed location, and the surrounding topography. The Yards waterfront can be viewed from Anacostia Park, located across the river. From the park, visitors can view the shoreline from the Frederick Douglas Bridge to the 11th Street Bridge. This view includes The Yards, the Washington Navy Yard, and Nationals Park. Structures of interest include the historic structures of the Washington Navy Yard; the U.S.S. Barry, a decommissioned destroyer permanently anchored at the Washington Navy Yard and currently functioning as a museum; the Navy Power Plant; and the WASA pumping station. A view from Anacostia Park is depicted **Figure 10**. The Yards In-water Marina site represents a very small portion of the viewshed from the Park.

Figure 10. View to Project Area from Anacostia Park

3.B.2 Neighborhood Character and Community Facilities

Prior to the 2000 Anacostia Waterfront Initiative and subsequent redevelopment, the former Near Southeast neighborhood was home to many abandoned, deteriorating, run-down buildings, and vacant lots (GSA, 2004). Prior to recent development trends, residents and employees were lacking public parks and green space, with no open accessibility to the Anacostia River, despite its close proximity to the rest of the community. Currently, over 40 percent of the new Capitol Riverfront neighborhood land area is in varying stages of planned, active, or completed redevelopment (DC OP, ND*b*). Recent development has introduced several projects to the area, including the Nationals Ballpark, and more amenities are planned.

Community facilities that have been in existence since before revitalization of the area include the U.S.S. Barry ship, which has been on permanent display at the Washington Navy Yard since shortly after being decommissioned on November 5, 1982. Operated by the Commander Naval District Washington, the ship is used for ceremonial purposes and is open to the public. A self-guided tour of Barry, with explanations posted at numbered locations, is available; active duty sailors provide additional interpretive information for visitors (U.S. Navy, 2009).

Tingey Plaza is open space located at the rear of the US DOT Headquarters where outdoor movie screenings, concerts, and other community gatherings occur.

Boathouse row is located upriver, to the north of the 11th Street Bridges. Located at 11th and O Streets is the Anacostia Community Boathouse, which is the maintained by the Anacostia Community Boathouse Association (ACBA). The ACBA partners with public and private interests to promote rowing and paddling activities in the Anacostia River, and access to the Anacostia River for surrounding waterfront communities.

The Virginia Avenue Park and Community Garden is an existing community facility located at 901 Virginia Avenue, SE. In addition, several new parks are planned.

Diamond Teague Park is a new 39,000 square foot public plaza with water taxi and public piers at the terminus of First Street, SE at the Anacostia River across from Nationals Park. Half of the landscaped park will be completed in 2009 with the remainder of the public plaza to be completed when an adjacent development, Riverfront on the Anacostia, is completed. The new water taxi piers and public piers for canoes and kayaks have been completed. Water taxi charter service is available during Nationals home games from a number of private providers.

The 3-block area between "I" and "M" Streets and 2nd Street and 2nd Place will become the Washington Canal Park. It was once a portion of the historic canal planned and illustrated by Pierre L'Enfant. This leg of the canal flowed from the Anacostia River to the Capitol, and has most recently housed school buses for the last several years. It is now intended to be a green space in the heart of the neighborhood for the enjoyment of office-workers, residents, and visitors. Construction of the park is anticipated to begin in 2010, and will be open to the public by mid-2011 (Capitol Riverfront BID, 2009d). In May 2009, a groundbreaking ceremony was held for The Yards 5.4-acre waterfront public park. The new park is expected to be open to the public in 2010.

At the site of the former Arthur Capper/Carrollsburg public housing complex, a new Capper Community Center is planned. The new community center, replacing the center at 5th and K Streets, will include a daycare facility, a recreation center, a computer lab, a gym, a game room, and meeting/classrooms.

Riverwalk Trail is a new recreational amenity and transportation alternative which, when completed, will be a continuous 16-mile trail along both sides of the Anacostia River. The 10-12 foot wide paved trail is designated for pedestrians, runners, skaters, and cyclists. Sections of the trail are in place, and final completion is anticipated in 2012. A map of existing and planned community facilities is presented in **Figure 11**.

The demand for boat slips in the DC marina market region is high. Marina operators have indicated lengthy waiting lists requiring several years for boaters to be offered a slip, especially for those 40 feet and greater in length (Moffat and Nichol, 2009). As such, prospective vessel owners are often forced to wait until a slip is available before purchasing the boat. Most slip leases are long-term (annual), and occupancy is reportedly above 95 percent market wide, and at 100 percent at the most popular facilities.

Slip absorption rates for new marinas are influenced by factors including the economy, market demand, and lease rates. In a saturated market with a strong economy, slips will be absorbed faster than in a market that has existing excess slips with a population that is decreasing luxury spending (Moffat and Nichol, 2009).

Figure 11. Community Facilities

3.B.3 Public Safety

The Yards security is currently maintained by Forest City through a contract with a private security firm. The Yards is within the First Police District, which is located at 101 M Street, SW. A substation is located at 500 E Street, SE (**Figure 12**). The First Police District is divided into several Police Service Areas (PSAs). Capitol Riverfront is located in PSA 105. The DC

Harbor Patrol, part of the Metropolitan Police Department (DC MPD), polices all of the rivers, inlets, and waterways surrounding the District.

The Washington, DC Fire and Emergency Medical Services (FEMS) Department provides fire and rescue services for the District. The closest station to the SEFC is Engine Company 7, located at 1101 Half Street. A fire boat station, also run by FEMS, services the Washington, DC waterfront and is located at 550 Water Street, SW. The fire boats respond to waterfront fires as well as water and ice rescues.

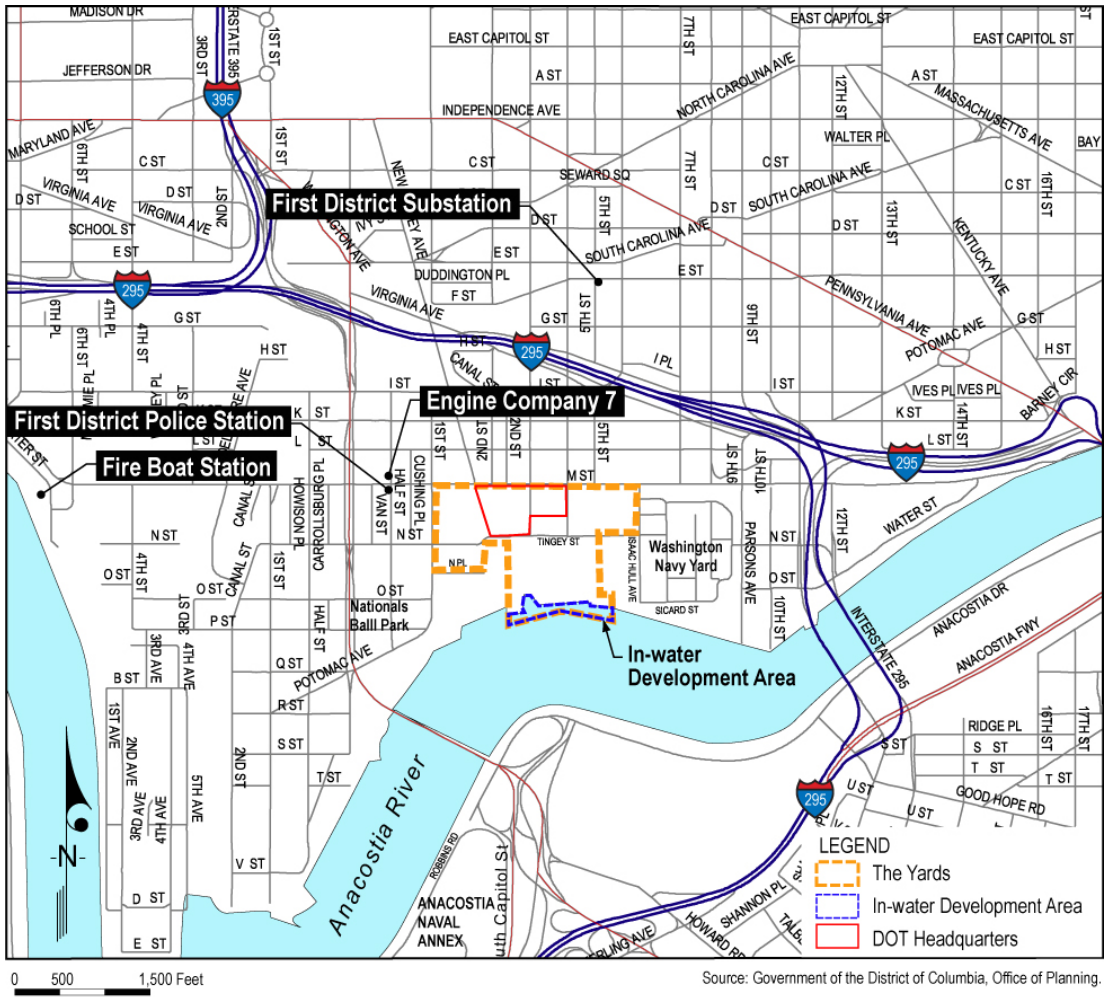

Figure 12. Emergency Services

3.B.4 Environmental Justice

EO 12898 directs Federal agencies to identify and address as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. In order to determine whether a

potentially affected Environmental Justice community is present within the study area, Council on Environmental Quality guidance on Environmental Justice (CEQ, 1997) offers the following guidelines:

- The minority population of the affected area exceeds 50 percent.
- The minority population percentage of the affected area is meaningfully greater than the minority population of the general population or other appropriate unit of geographic analysis.
- Low-income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census's current Populations Report, Series P-60.

The affected area for the purposes of this study is Census Tract (CT) 72 and the "general population" is that of Washington, DC. In Census 2000, the African American population in CT 72 was greater than 50 percent (94.9 percent), higher than the population of the entire District of Columbia (60 percent). A large percentage of the population, 62.1 percent, in CT 72 was below the poverty level compared to 20.2 percent in Washington, DC. However, the redevelopment spurred on by the AWI in 2000 has dramatically changed the area. Currently, within one mile of the project area, there is an estimated daytime population of 35,000 people and an estimated 25,000 residents with an average household income of $86,000. Population within the Capitol Riverfront totaled 2,500 at the end of 2009, and is expected to grow to over 3,000 residents in 2010 (Capitol River BID, 2009*b*). No minority populations exceeding 50 percent or meaningfully greater than the minority population of the general population of Washington, DC have been identified within the study area. While new communities within the study area may still qualify as environmental justice communities, new mixed-income and mixed-use developments within the study area will be closer to the overall income and ethnic makeup of the District of Columbia than prior to the spur in redevelopment.

The Arthur Capper/Carrollsburg complex, a former 707-unit District of Columbia Housing Authority (DCHA) public housing project is currently being redeveloped under a $34.9 million Hope VI Grant (DCHA, 2010). The phased redevelopment of the 23-acre site, now called Capitol Quarters, includes: replacement of the 707 former Capper public housing units; 1,200 market-rate and workforce-rate rental and ownership units; 50 DCHA Housing Voucher Program ownership units (formerly known as Section 8); 700,000 square feet of office space; 50,000 square feet of retail space; and a community center (DCHA, 2010). As of March 2010, 300 new rental units have been opened to low- and moderate-income households. Build-out is anticipated by December 2013. There are low-income residences within the study area. Nearby public housing includes the 314-unit Carroll Apartments located at 301 L Street, SE, and Hopkins Apartments located t 1430 L Street, SE.

The former Cappers Senior Complex has also been replaced with a 162-unit building at 900 5th Street (Capper Building #1), and a 139-unit companion at 400 M Street (Capper Building #2).

Zoning changes have been approved to also allow non-senior workforce-level-income renters (up to 60 percent of area median income) to also apply for residency at Capper Building #2.

3.B.5 Infrastructure

The Washington Aqueduct, a network of water systems including the Dalecaria and the McMillian Water Treatment Plants (WTPs) operated by the COE, provides potable water to Washington, DC. WASA purchases potable water from the Aqueduct and distributes it throughout Washington, DC (WASA, ND*d*). Water distribution system mains to The Yards have been updated as part of the upland development project.

WASA's wastewater collection system is comprised of separate and combined sewers. A combined sewer system carries both sanitary sewage and stormwater in one piping system. Separate systems are comprised of independent piping systems for sanitary sewage and stormwater. The District of Columbia began constructing separate systems in the early 1900s. Prior to 1900, all sewers were constructed as combined systems. The majority of the sewers at the site are combined.

During normal weather conditions, sanitary wastes collected in the combined sewer are diverted through a system of regulators to the Blue Plains Wastewater Treatment Plant. (WASA, ND*b*). During periods of significant rainfall, the capacity of a combined sewer may be exceeded. When this occurs, regulators allow the excess flow, which is a mixture of stormwater and sanitary wastes, to be discharged directly to the Anacostia River, Rock Creek, Potomac River, or tributary waters. This excess flow is called Combined Sewer Overflow (CSO). Release of CSO is necessary to prevent flooding in homes, basements, businesses, and streets, but the result allows untreated waste to be directly channeled into the surrounding waterways (WASA, ND*a*).

Solid waste generated at The Yards site is collected and transported by a private contractor, trucked to one of six waste transfer service sites within the District, and then transferred to landfills outside of the District.

Potomac Electric Power Company (PEPCO) maintains Substation 33, located in the northeast corner of The Yards site. This substation services the Washington Navy Yard. The Yards is services by lines running from M Street and First Street. The majority of electrical lines running along the Anacostia River at the project site were removed in 1999 during seawall demolition and replacement.

The Washington Gas Company supplies natural gas to the District through underground gas mains. New gas lines, which ultimately connect to a main gas line on M Street, have been installed in the new streets as construction has proceeded. The gas lines will be connected to the new buildings as completed.

3.C. Transportation and Access

The Yards In-water Development Project is intended to provide public access to the Anacostia River for the enjoyment of open space and water-dependent activities for residents, employees, and visitors to the area. It is anticipated that most users of the marina and public piers would arrive by boat or by walking from nearby locations. For those arriving to the area by car, marina parking would be included as part of The Yards landside development.

The Anacostia River is a navigable waterway traveled by motorized and non-motorized recreational boats. A navigation channel maintained by the COE runs through the lower Anacostia (**Figure 6**).

The Yards is easily serviced by public transportation. The Navy Yard Metrorail Station is a short walking distance north of the site off of M Street, and nine Metrobus routes serve M Street as it fronts the SEFC site.

The DC Circulator Bus provides quick access between the Capitol Riverfront and Union Station via Capitol Hill. It can be picked up in front of the Navy Yard Metro station exit on New Jersey Avenue SE, 4th and M Streets SE, just a few blocks north of the project site. Other pick up and drop off locations in the Capitol Riverfront neighborhood are along M Street between New Jersey Avenue and 8th Street SE. The Circulator connects the Capitol Riverfront neighborhood with Metrorail's red, orange, and blue lines along the route. The Circulator also provides connects the Capitol Riverfront with popular attractions such as Eastern Market, the U.S. Capitol Visitors Center, and the restaurants and shops on Barrack's Row.

There are several marinas in the Downtown, DC, providing a total of 1124 boat slips within the District (Moffat and Nichol, 2009). Two marinas are currently located along the lower Anacostia River, and provide docking and launching facilities for motorized and human-powered boats. The James Creek and Buzzard Point marinas are located downstream of project area, and provide 294 and 85 slips, respectively. A small amount of boat traffic is generated by the Washington Navy Yard. With advance-purchased tickets, water taxi charter service from Diamond Teague Park is also available during Nationals home games.

Boathouse row and the Anacostia Community Boathouse are located to the north of project area, where kayaks, canoes, and rowing boats are generally launched. High school, collegiate, and club regattas are regularly held on the Anacostia River. Peak hours for practice runs occur from February through November in the early morning hours from 5:15 to 7:00 AM, and in the afternoon and evening from 4:00 to 8:00 PM. Practice runs launched from boathouse row generally run to the outside of the navigation channel, crossing in front of the marinas and other launch sites along the river. Transportation Resources are presented in **Figure 13**.

All boaters on the Anacostia River are responsible for abiding by District harbor and boating safety regulations (Title 19, Chapter 10 of the DC Municipal Regulations) and the United States

Coast Guard Inland Navigation Rules Act of 1980 regarding speed limits, lighting and signal requirements, use of personal floatation devices, etc. The DC Harbor Patrol, part of the DC MPD, polices all of the rivers, inlets, and waterways surrounding DC. It oversees the marinas, regulates fishing and game, and enforces equipment and safety regulations.

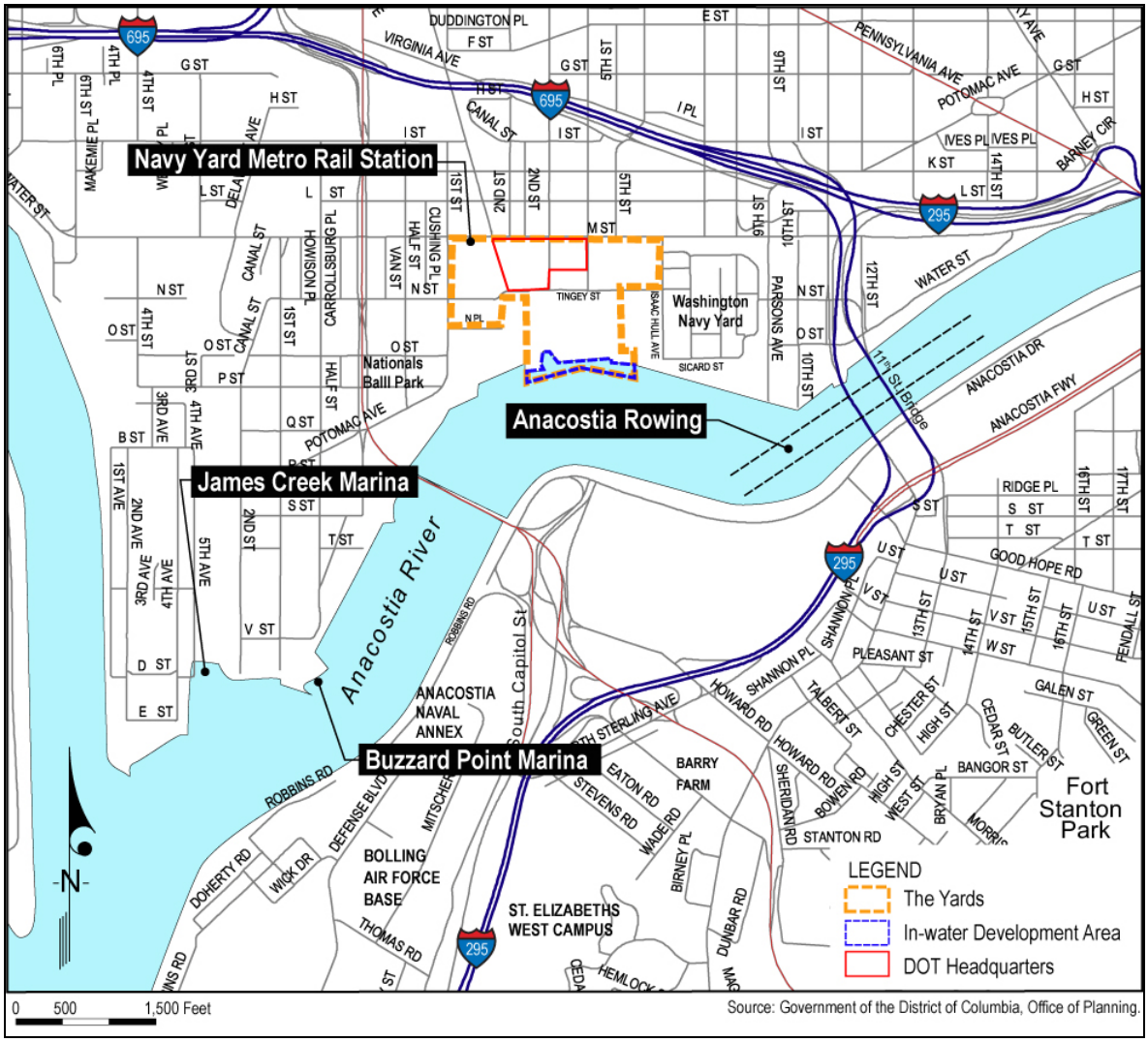

Figure 13. Transportation Resources

Current boat traffic does not usually require the 11th Street Bridge and South Capitol Street Bridge (also known as the Frederick Douglas Memorial Bridge) to be opened, but requests for openings can be made to District Department of Transportation (DDOT) 48 hours in advance. The South Capitol Street/Frederick Douglas Memorial Bridge has a vertical clearance of 35 feet, and DDOT recommends mast heights do not exceed 32 feet for boats passing under the bridge (DDOT, 2009).

DDOT is in the process of studying a potential water taxi service along the Anacostia River as another mode of transportation within the District. The water taxi service would be available in the project area and other parts of the Anacostia Waterfront.

Figure 14. A Rower on the Lower Anacostia River

3.D. Air Quality

As per guidelines outlined by the Clean Air Act (CAA), 23 CFR Part 771. 49 CFR Part 622, GSA considered the effect of the proposed action on air quality. Under the authority of the CAA, EPA has developed National Ambient Air Quality Standards (NAAQS) for six criteria pollutants deemed harmful to public health and the environment. These pollutants are: nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon dioxide (CO_2), ozone (O_3), particulate matter equal to or less than 10 microns in size (PM_{10}), fine particulate matter ($PM_{2.5}$), and lead (Pb). Areas where concentrations of criteria pollutants are below the NAAQS are designated as being in "attainment" and areas where a criteria pollutant level exceeds the NAAQS are designated as "nonattainment" by the EPA. According to the Metropolitan Washington Council of Governments (MWCOG), The Yards lies within the Washington, DC region nonattainment area for ground-level ozone and fine particulate matter ($PM_{2.5}$) (MWCOG, ND). Fine particulate matter includes all particles with a diameter less than or equal to 2.5 microns. Particles of this size pose a greater health risk than larger particles because they have the potential to lodge deep in the lungs and enter the bloodstream (MWCOG, 2008).

In nonattainment areas the CAA requires the region to achieve attainment for ozone by June 2010 and $PM_{2.5}$ by April 2010 (MWCOG, 2004, 2008). MWCOG has developed a State Implementation Plan (SIP) to guide improvements to air quality in the Washington, DC region to

meet the EPA's timeline. The SIP provides an inventory of existing air emissions and accounts for planned projects within the region that have potential to increase pollution emissions. The SIP accounts for general increases in vehicular travel throughout the region as well as anticipated changes in land use and demographic/employment patterns.

3.E. Noise

The extent to which individuals are affected by noise is controlled by several factors, including:

- The duration and frequency of sound;
- The distance between the sound source and the receptor;
- The intervening natural or man-made barriers or structures; and
- The ambient environment.

The "A-weighted" decibel (dBA) is a unit of measure used to express the relative loudness of sounds in the air as perceived by the human ear. The dBA scale de-emphasizes the very low and the very high frequencies and emphasizes the middle frequencies, thereby closely approximating the frequency response of the human ear. Common noise sources and their sound levels are described in (**Table 4**).

Human ability to perceive change in noise levels varies widely from person to person, as do responses to perceived changes. Generally, a three dBA change in noise level would be barely perceptible to most listeners, whereas a ten dBA change is normally perceived as doubling (or halving) of noise levels and is considered a substantial change. These thresholds permit direct estimation of an individual's probable perception of changes in noise levels.

Section 5 of the Washington, DC Noise Control Act of 1977 permits noise resulting from construction or demolition (excluding pile drivers) activity between 7:00 AM and 7:00 PM on any weekday. Noise levels for construction or demolition activities are not permitted to exceed 80 dBA unless granted variance by the Mayor of the District of Columbia.

Table 4. Common Noise Sources and Their Sound Levels

Source	Sound Level (dBA)
Near large jet at takeoff	140
Air-raid siren	130
Threshold of pain	120
Thunder or sonic boom	110
Garbage or trailer truck at roadside	100
Power lawn mower at 5 feet	90
Alarm clock or vacuum cleaner	80
Freeway traffic at 50 feet	70
Conversational speech	60
Average residence	50
Bedroom	40
Soft whisper at 15 feet	30
Rustle of leaves	20
Breathing	10
Threshold of hearing	0

Source: Adapted from U.S. National Bureau of Standards Handbook 119, 1976.

Maximum sound levels are established in the District of Columbia Municipal Regulations which are applicable for the day and night in specific zoning locations (**Table 5**). These maximum levels would be applicable to the project area after construction activities are complete. The project area is considered a waterfront zone. The maximum daytime noise level for a waterfront zone is 60 dBA and the maximum nighttime noise level is 55 dBA.

Table 5. Noise Abatement Thresholds

Zone	Maximum Noise Level (dBA)	
	Daytime	Nighttime
Commercial or light manufacturing zone	**65**	**60**
Industrial Zone	**70**	**65**
Residential, special purpose, or waterfront zone	**60**	**55**

Source: DC Department of Consumer and Regulatory Affairs, 1977

Noise sources in the study area include vehicular traffic along adjacent streets – mainly along M Street and 1st Street, and construction noise from The Yards and other nearby redevelopment projects.

Noise resulting from construction equipment would vary based on the equipment being used at any time. All construction activities would be permitted by DC and therefore would abide by noise control regulations, which would reduce the impact of construction equipment on the overall noise in the vicinity of The Yards In-water Development project area. **Table 6** displays the general noise level produced by construction equipment with and without noise control measures.

Table 6. Typical Construction Equipment Noise Levels (dBA at 50 feet)

Equipment Type	Without Noise Control	With Feasible Noise Control[1]
Earthmoving:		
Front Loaders	79	75
Backhoes	85	75
Dozers	80	75
Tractors	80	75
Scrapers	88	80
Graders	85	75
Truck	91	75
Pavers	89	80
Material Handling:		
Concrete Mixers	85	75
Concrete Pumps	82	75
Cranes	83	75
Derricks	88	75
Stationary:		
Pumps	76	75
Generators	78	75
Compressors	81	75
Impact:		
Pile Drivers	101	95
Jack Hammers	88	75
Pneumatic Tools	86	80
Other:		
Saws	78	75
Vibrators	76	75

1. Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.
Source: GSA, 2001.

3.F. Hazardous Materials

Sampling of near-shore sediment was performed on four occasions (URS, 2004).

In 1990, Apex collected four sediment samples along the waterfront for use in a Phase I Environmental Site Assessment (ESA). These samples no longer represent near shore sediment, since the sediments in this area were excavated during construction of the new sea wall in 2001.

In 1991, Kaselaan and D'Angelo Associates collected samples of near-shore sediments to determine the concentration of specific chemical pollutants that may exist in sediments to be dredged. This data was used in a Phase II ESA. Nine of the samples collected were taken in areas that were not disturbed by the replacement of the seawall. Polycyclic Aromatic Hydrocarbons (PAHs), Arsenic, Copper, Lead, Mercury, and Zinc were detected in concentrations higher than background levels. One sample contained PCBs.

In 1995, URS conducted sediment sampling in support of the water quality certification required for a § 404/10 permit to replace the seawall. These samples no longer represent near shore sediment, since the sediments in this area were excavated during construction of the new sea wall in 2001.

In 1999, URS collected 11 near-shore sediment samples for an analysis completed as a condition of the District of Columbia District Court Consent Decree dated April 24, 1998. The results of this analysis are contained in the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) report dated June 16, 2004. These sediment samples were found to contain PCBs, VOCs, SVOCs, PAHs, Dioxins, and 20 metals. Results were compared to U.S. EPA Region III Biological Technical Assistance Group (BTAG) screening values as well as Applicable or Relevant and Appropriate Requirement (ARAR) values.

Table 7 and **Table 8** display the contaminants which exceeded BTAG and ARAR values in one or more sediment samples. In 2008, this data and other sediment quality data collected in the reach of the Anacostia River adjacent to SEFC was used to determine a screening level human health risk evaluation for fish consumption as requested by the EPA. This study indicated that the potential exists for excess cancer risk and other adverse health effects from the consumption of fish from the Anacostia River (URS, 2008). This conclusion is consistent with those made by the Anacostia Watershed Toxics Alliance, which have resulted in DC DOH and Maryland Department of the Environment (MDE) health advisories and restrictions regarding consuming fish taken from the river. The 2008 study also involved a screening level ecological evaluation of benthic invertebrates, semi-aquatic mammals, birds, fish, and recreational fishermen. The results of this evaluation indicate the potential for adverse ecological effects for all the examined organisms from PCBs, PAHs, and metals. Potential mitigation measures that would be implemented because of the contaminants in the sediment are discussed in Section 4.A.1.b.

Table 7. Contaminants found in concentrations above BTAGs

VOCs	SVOCs & PAHs	PCBs	Dioxins	Metals
None*	1,4 Dichlorobenzene	Aroclor 1254	None **	Cadmium
	2-Methylnapthalene	Aroclor 1260		Chromium
	3-Methylphenol			Copper
	4-Methylphenol			Lead
	Acenapthene			Mercury
	Anthracene			Nickel
	Acenapthylene			Silver
	BAA			Zinc
	BAP			
	BBF			
	Benzo[g,h,i] perylene			
	Benzyl butyl phthalate			
	bis (2-Ethylhexyl) phthalate			
	Chrysene			
	DAHA			
	Fluoranthene			
	Fluorene			
	Ideno [1,2,3-cd] pyrene			
	Napthalene			
	Phenanthrene			
	Pyrene			
Source: URS, 2004				

* Only two of the detected VOCs have BTAGs.

** There are no published BTAGs for Dioxins. Levels were below those requiring further evaluation in residential areas.

Table 8. Contaminants found in concentrations above ARARs

VOCs	SVOCs	PCBs	Dioxins	Metals
Acetone	1,4 Dichlorobenzene	Aroclor 1254	None	Aluminum
Chloroform	BAA	Aroclor 1260		Antimony
Chloromethane	BAP			Arsenic
Methylene Chloride	BBF			Barium
Trichloroethene	BKF			Cadmium
	Carbazole			Chromium
	DAHA			Copper
	Ideno [1,2,3-cd] pyrene			Iron
	Napthalene			Lead
				Manganese
				Mercury
				Selenium
				Silver
				Thallium
				Vanadium
Source: URS, 2004				

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4. ENVIRONMENTAL CONSEQUENCES

This section describes the environmental consequences associated with each alternative. It is organized by impact topics, which refine the issues and concerns into distinct topics for discussion analysis. These topics allow a standardized comparison between the alternatives based on their impact to the environment. NEPA requires consideration of type, context, intensity, and duration of direct, indirect, and cumulative impacts plus measures to mitigate the impacts.

Potential impacts are described in the following terms:

- Intensity – are the effects negligible, minor, moderate, or major;
- Type – are the effects beneficial or adverse;
- Duration – are the effects short-term, lasting through construction or less than one year, or long-term, lasting more than one year; and
- Context – are the effects site-specific, local, or even regional.

The thresholds of change for the intensity of impacts are defined as follows:

- Negligible – when the impact is localized and not measurable at the lowest level of detection;
- Minor – when the impact is localized and slight, but detectable;
- Moderate – when the impact is readily apparent and appreciable; or
- Major – when the impact is severely adverse, significant, and highly noticeable.

Cumulative impacts are identified separately. The terms effects and impacts are used interchangeably throughout this section.

4.A. Natural and Biological Resources

4.A.1 Wildlife

4.A.1.a. No-Action Alternative

Under the No-Action Alternative, there would be no impact to biological resources because there would be no additional disturbance within the Anacostia River.

4.A.1.b. Action Alternative

Wildlife populations that would be impacted by the proposed marina include aquatic birds, fish, and benthic invertebrates. In addition to resident fish, anadromous fish species may also use the Anacostia River for feeding and spawning. Short-term, minor, direct, adverse effects would occur during construction. Affected wildlife populations would be impacted directly by the potential release of sediment, noise, and the shock waves produced by pile driving. No dredging

is anticipated in the construction of the marina. Sediment erosion and control measures would minimize effects from sedimentation. Long-term, minor, indirect, adverse effects would occur to affected animal populations in the Anacostia River due to the increased boat activity at the marina. However, construction of new pilings in the river with the piers overhead would create new habitat that could be used by fish and other organisms resulting in a long-term, minor, direct, beneficial impact.

Based on coordination with NOAA, the shortnose sturgeon (*Acipenser brevirostrum*), a federally-listed endangered anadromous fish species, may be found within the vicinity of the project area. Potential effects to the shortnose sturgeon could be caused by disturbances during construction, and potentially from boats visiting the marina. However, this disturbance would only occur over a small portion of the entire river, and would not prevent fish passage. The Anacostia River is unlikely habitat for the shortnose sturgeon due to its shallow channel, poor water quality, and lack of rocky substrate preferred for spawning. Therefore, the effects of the action alternative on the short-nose sturgeon are expected to be negligible.

Mitigation Measures

Effects from sediment disturbance and shock waves from the driving of piles during construction would be offset with the implementation of best management practices (BMPs), such as but not limited to, turbidity curtains or bubble curtains. Turbidity curtains are floating barriers designed to contain disturbed sediment in a water body and are commonly used for dredging, pile driving, and marine construction projects. Bubble curtains are perforated pipes set at the bottom of a water body through which air is pumped, forming a barrier of air bubbles to block fine sediment. Implementation of these or other BMPs would help contain sediments and prevent the majority of sediment disturbed during construction from entering the water and impacting fish. No dredging is anticipated in the construction of the project. Based on NMFS recommendations and District requirements, in-water construction restrictions are in place to coincide with anadromous fish spawning season from February 15th to June 15th. Construction activities would adhere to these restrictions, minimizing effects to fish, including the shortnose sturgeon. Any future maintenance of the marina that may require in-water construction would also adhere to the time of year restrictions.

4.A.2 Water Resources

4.A.2.a. No-Action Alternative

Under the No-Action Alternative, there would be no additional effects to surface waters because there would be no disturbance in the Anacostia River.

4.A.2.b. Action Alternative

Currently, the boat traffic and boater population is underserved due to a lack of available marina space (Moffat and Nichol, 2009). A new marina at The Yards is not anticipated to cause a significant increase in boat traffic in the lower Anacostia River. Pollutants associated with boats and marinas include chemicals used for maintenance and repair (solvents, oils, paints, and cleaners), fuel, and sanitary waste. Dredging and filling activities are not planned in the construction of the project, but new piles would be driven into the riverbed, which could disturb sediment. With BMPs in place, potential sediment transport from construction activities and a minor increase in motorized boat traffic would result in negligible to minor adverse effects to water quality.

Mitigation Measures

Under the Action Alternative, GSA would develop a Sediment Control Plan that would include implementation of best management practices, such as but not limited to turbidity curtains during pile driving. BMPs would help to minimize and contain potential sediment transport that could impact water quality and aquatic habitat in the Anacostia River. Pump-out stations would also be available at the marina to allow for proper disposal of sewage from recreational boats, and trash receptacles would be available for solid waste.

4.B. Socioeconomic Resources

4.B.1 Aesthetics and Visual Resources

4.B.1.a. No-Action Alternative

The No-Action Alternative would not result in effects to aesthetic or visual resources as there would be no change to the project area.

4.B.1.b. Action Alternative

The Action Alternative would take place entirely within the river and would result in the construction of: one commercial fixed pier of approximately 185 feet by 30 feet, one public fixed pier of approximately 135 feet by 30 feet; and 49 boat slips. As a result, new structures would be added to the viewshed. These features would be designed and constructed in such a manner that would be consistent with the requirements outlined in the SEFC Historic Covenant and would not obstruct any views to or from the Historic Zone (see **Figure 4**). The fixed piers and boat slips would be at or lower than the height of the seawall and would not visually obstruct the Yard's site from the water or nearby National Park Service Poplar Point. From this location, the view is comprised of the river in the foreground, the river shoreline in the middle ground, and distant structures such as The Capitol in the background. The addition of the pier, boat slips, and associated boats under the Action Alternative would introduce a very small element to the

viewshed from this location and would not obstruct any views to structures on the shoreline. The marina and boats would be consistent with other views from Anacostia Park further north of the project area.

In summary, the Action Alternative would have a long-term minor adverse impact to views to and from the Yards site because of the introduction of new piers and boat slips to the viewshed. The impact would be minor because the piers and boat slips would not noticeably change or obstruct any views or change the visual character of the Anacostia Riverfront. During construction, temporary short-term moderate adverse effects would occur because of the introduction of construction equipment such as cranes to construct the piers.

Mitigation Measures

No mitigation measures are required for this resource.

4.B.2 Neighborhood Character and Community Facilities

4.B.2.a. No-Action Alternative

The No-Action Alternative would not provide a public marina and would not be consistent with District and other plans to provide open access to the Anacostia River, resulting in moderate adverse effects to the community over the action alternative because area plans for increased access to the river would not be fully implemented, and the Capitol Riverfront neighborhood would not gain an additional recreational facility.

4.B.2.b. Action Alternative

The proposed marina would positively contribute to the ambiance of the Capitol Riverfront neighborhood, incorporating access to the Anacostia River into a more vibrant and consolidated neighborhood, in line with the redevelopment of the area. A long-term moderate beneficial effect would occur with the added connectivity of the neighborhood to the Anacostia River via The Yards waterfront park, Riverwalk Trail, and the new marina and public piers.

While the majority of the boat slip leases of the proposed marina are expected to go to residents of The Yards development, the increase in boat slips to the currently underserved boating community would also have a long-term, minor, beneficial effect on community facilities.

Mitigation Measures

No mitigation measures are needed because the impacts of the Action Alternative are beneficial.

4.B.3 Public Safety

4.B.3.a. No-Action Alternative

The No-Action Alternative would have no impact to public safety because a marina would not be constructed and the demands placed on first responders would be unchanged.

4.B.3.b. Action Alternative

Since the construction would take place in-water, no roads would be closed and there would be no impact to upland emergency response times. Existing services such as emergency response, fire, and police services would continue to serve The Yards development. A negligible to minor increase in demand for these services may occur as more residents and visitors utilize the public piers and marina. The additional demand for emergency services could result in a negligible to minor, long-term adverse effect to public safety

Mitigation Measures

No mitigation measures are required for this resource.

4.B.4 Environmental Justice

4.B.4.a. No-Action Alternative

Under the No-Action Alternative, a marina and public piers would not be constructed, and would not add an additional community recreational facility to the neighborhood. No disproportionate effects would occur to low-income or minority populations; however, a minor adverse effect would occur because an additional community recreational facility would not be added to the neighborhood.

4.B.4.b. Action Alternative

Redevelopment of the Capitol Riverfront neighborhood includes several multi-use communities with public housing units, and low- to moderate income rental and ownership units. A new senior housing facility has also opened at the Arthur Capper/Carrollsburg complex. The construction of the marina and public piers would benefit the community by adding an additional recreational facility accessible to the general public. The new marina and public piers would provide a long-term moderate benefit to the entire community, including environmental justice populations, by adding to the cohesive plan for increased neighborhood facilities including the Riverwalk Trail and several new neighborhood parks.

Mitigation Measures

No mitigation measures are needed, since the impacts of the Action Alternative are beneficial.

4.B.5 Infrastructure

4.B.5.a. No-Action Alternative

The No-Action Alternative would have no effects to water distribution, wastewater, solid waste disposal, or electricity since the marina would not be constructed and no additional need would occur.

4.B.5.b. Action Alternative

The marina would have electric-powered lamps that would be used in the evenings, creating an increased demand for electricity at the site. The electricity required for the marina would be only a small portion of that used on the entire campus and the capacity of the existing power sources would not be exceeded. Therefore, adverse direct effects would be long-term and minor.

Water would be supplied at the marina for rinsing boats. This activity would result in a small increase in water use. The effects would be long-term, adverse, and minor because while water use would increase, the increase would be relatively small as only a maximum of 49 boats would be docked at the marina at any given time.

Pump-out stations would be available to boaters at the end of either pier. However, any effects to the existing wastewater treatment system as a result of the Action Alternatives would be negligible due to the relatively small number of boats utilizing the stations.

Trash receptacles would be located at the marina and trash would be collected and transported by a private contractor. Long-term, minor, direct, adverse effects would occur because the increase in solid waste would be only a small fraction of the waste created at The Yards as a whole.

Mitigation Measures

No mitigation measures are required for this resource.

4.C. Transportation and Circulation

4.C.1 No-Action Alternative

The No-Action Alternative would have no impact on traffic, transportation, or parking since there would be no additional visitors to a marina or added boat use on the Anacostia River.

4.C.2 Action Alternative

The Action Alternative would not add any additional parking for the marina or public piers. It is anticipated that most visitors would arrive via boat or walking from nearby areas and, in the future, potentially by water taxi. Public transportation would be popular for accessing the marina since there is no dedicated marina parking. Public transportation, including the Metrobus and

Metrorail, could experience a slight increase in ridership due to visitation to the marina. However, the effects of this increased ridership by visitors to the marina and piers would be minor when compared to the influx of riders visiting larger planned and completed development projects. Therefore, the impacts to public transportation would be adverse, long-term, and minor.

The Anacostia River is used by a variety of power boats, sailboats, and non-power boats such as canoes, kayaks, and crew boats. Generally, paddlers and rowers from the nearby boathouses tend to stay to the outside or near the boundary of the federal navigation channel to avoid conflicts with faster, motorized watercraft. Construction of the Action Alternative would increase boat traffic between the navigation channel and the marina, which could result in conflicts between non-motorized and motorized boats. In addition, the 10-foot setback from the channel creates a narrower area for non-motorized boats to navigate while avoiding faster boats in the channel. The increased traffic cutting across the river to the marina could have long-term minor adverse effects to water transportation because it could increase the potential for watercraft conflicts. The DC Harbor Patrol is responsible for enforcing speed limits on the Anacostia.

Mitigation Measures

Signage could be used at the end of the marina piers to alert boaters of applicable regulations and equipment and safety rules to help offset potential conflicts.

4.D. Air Quality

Development activities can affect air quality in three ways: 1) through airborne dust generated by the construction process; 2) by introducing new stationary sources of pollutants, such as heating plants and boilers for new facilities; and 3) though increasing vehicular traffic to the site, which raises vehicle emission levels near the site and possibly the region.

4.D.1 No-Action Alternative

The No-Action Alternative would have no impact on air quality since no construction would take place, no new stationary sources of pollutants would be added, and vehicular or boat traffic would not increase.

4.D.2 Action Alternative

Construction activities would have an effect on air quality from construction equipment emissions and additional trips to the site by construction workers. The impact on air quality from construction sources is expected to be short-term, minor, and adverse because of the short duration of the construction activities (approximately six months) and minor equipment needs.

The Action Alternative would have no impact on air quality from stationary sources since no new stationary sources would be added.

The Action Alternative would result in increased boat traffic to the site. The minor increase of boat traffic to the region would have a long-term, minor, adverse impact on air quality from the relatively small addition of mobile source emissions from boat traffic and dockside maintenance activities. No gas pumps are being provided and so there would be no impact from vapors.

Mitigation Measures

Best management practices would be utilized during construction of the proposed action to avoid and/or minimize the release of airborne pollutants. Such practices could include, but would not be limited to, minimization of emissions through the use of commercial power over portable generators, when possible, to reduce temporary effects to air quality.

4.E. Noise

4.E.1 No-Action Alternative

The No-Action Alternative would cause no increase in noise levels from mobile sources, stationary sources, or construction sources because a marina would not be constructed at The Yards.

4.E.2 Action Alternative

Construction activities would have an effect on existing noise levels. Areas around the construction site are likely to experience varied periods and degrees of noise. Construction activities are anticipated to last approximately six months. Construction noise would cause a short-term, moderate, direct, adverse impact to noise levels. Pile driving activities may result in a noise level higher than the standard maximum sound levels allowed under the District of Columbia Noise Control Act of 1977. If this is the case, a variance or temporary exemption for construction activities would be requested as allowed by the Noise Control Act.

Since there would be no new stationary sources of noise, no increase in noise levels would occur from stationary sources.

Mobile sources of noise include the boats utilizing the marina. Under the Action Alternative, there would be a long-term, minor, direct, adverse impact to noise levels because of the noise generated from boat engines and dockside maintenance activities. In general, temporary noise effects would be minimized during construction to meet the requirements and according to the standards of the District of Columbia Noise Control Act of 1977.

Mitigation Measures

Noise levels would be mitigated during construction using noise control as required by DC noise regulations. Time restrictions on construction activities, as established by the DC Noise Control Act, would be followed.

4.F. Hazardous Materials

4.F.1 No-Action Alternative

The No-Action Alternative would not result in impacts to hazardous materials as there would be no construction activities in-water that would disturb sediment with known contaminants.

4.F.2 Action Alternative

The Action Alternative would take place entirely within the river and would result in the construction of: one commercial fixed pier, one public fixed pier, and 49 boat slips. Construction of the piers would require pile driving into the river bed. This construction activity would disturb sediments on the river bottom, which based on previous in-water sediment sampling, as described in Section 3.F, are known to contain contaminants such as PCBs, VOCs, SVOCS, PAHs, Dioxins, and metals. The sediment disturbance is not expected to result in any additional health or safety concerns to adjacent areas because sediment disturbance would be minor and temporary creating a very low risk of exposure to humans using the river. No new contamination would result from the action alternative and so fish and other wildlife would be impacted only by sediment that may potentially be re-suspended during construction activities. The Anacostia River is a known impaired water that is currently not suitable for swimming or fish consumption.

Mitigation Measures

Bottom sediment release into the Anacostia River outside the construction area would be minimized through the use of BMPs such as turbidity or bubble curtains. BMPs would be established through the development of a Sediment Control Plan. The Action Alternative does not involve any dredging. In the event any amount of bottom sediment needs to be disposed of, GSA and Forest City would require that the contractor conduct appropriate sediment testing to determine treatment and disposal requirements. GSA and Forest City would also require the contractor to identify worker protection requirements for sediment dewatering, loading, and transport.

Furthermore, the contractor would be required to identify worker protection measures as part of the health and safety plan for construction for the piling driving. With appropriate sediment control measures during pile driving and implementation of a health and safety plan for worker

protection, the Action Alternative would result in minor short-term impacts because of the minor release of sediments with known contaminants presenting a low risk to the human environment.

4.G. Cumulative Effects

4.G.1 Introduction

Cumulative effects are the effects on the environment which result from "the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 1580.7).

Cumulative effects most likely arise when a relationship exists between a proposed action and other actions expected to occur in a similar location during a similar time period. The geographic boundaries considered in the cumulative effects analysis will be determined by the resources that may be affected by or very near the proposed project (CEQ, 1997).

The surge in redevelopment of the Capitol Riverfront neighborhood was spurred on by the Anacostia Waterfront Initiative of 2000. This partnership began a renewed interest in the Anacostia River waterfront communities, and commenced the large-scale redevelopment of the former Near Southeast and Buzzards Point neighborhoods, now known as the Capitol Riverfront. Therefore, the starting time for the period analyzed is 2000. As The Yards mixed-use development is anticipated to be complete in 15 years, the end of the timeframe considered in the cumulative effects analysis is 2025. The geographic boundary considered includes the Capitol Riverfront neighborhood and the lower Anacostia River.

While independent of The Yards In-water Development, a number of past, present, and reasonably foreseeable future actions were considered while analyzing potential cumulative impacts of the proposed action. Redevelopment projects surrounding The Yards, in combination with the proposed action, could beneficially or adversely affect resources within the study area. Cumulative effects for The Yards upland development are discussed in the SEFC EIS.

Actions considered in the cumulative impacts analysis include those discussed in more detail in Section 3.B of this document, as well as the following actions in the Capitol Riverfront neighborhood that have or will occur within the 2000-2025 timeframe.

<u>Ongoing Redevelopment of the Capitol Riverfront</u>

Revitalization of the Capitol Riverfront neighborhood is in various stages of planning, construction, or completion. Both public and private investments in new development include residential, office, retail, and other developments throughout the 500 acre area extending approximately 1.5 miles from the Anacostia River frontage to the U.S. Capitol. Much of the new construction is LEED certified per the Washington, DC Green Building Act of 2006.

U.S. Department of Transportation Headquarters

Completed in April 2007, the headquarters is located on 11 acres of the SEFC campus and includes a 68,000-foot vegetated roof. The new headquarters brought approximately 6,000 new workers to the Capitol Riverfront area.

Nationals Ballpark

The 41,000-seat ball park was completed in spring 2008. The 20-acre stadium site includes parking, office space, a conference center, concession stands, a center field restaurant, a plaza and family picnic area, a press box, and a home clubhouse.

Poplar Point Redevelopment

Currently in planning, the proposed park redevelopment could support up to six million square feet of new development. Seventy acres of the 110-acre site would remain designated as public park land. A 10-15 year timeframe is anticipated for completion (DC Economic Partnership, 2008).

District of Columbia Water and Sewer Authority

WASA is planning to improve water quality by controlling combined sewer overflows (CSOs) in the District of Columbia. WASA plans to separate CSOs on the east side of the Anacostia River, constructing a storage/conveyance tunnel from Poplar Point to the northeast District boundary, and constructing a pipeline from Fort Stanton to Poplar Point to address the remaining CSOs on the east side of the Anacostia River (WASA, n.d.).

4.G.2 Cumulative Effects by Resource Topic

A summary of potential cumulative effects as a result of past, present, and reasonably foreseeable future actions follows.

Wildlife

Urbanization throughout the region has increased impervious surface and stormwater runoff, causing pollution and sediments to enter the Anacostia River and its tributaries. Projects such as the Redevelopment of Popular Point have the potential to cause long-term adverse impacts on wildlife because of the loss of existing habitat. However, other projects such as the future DC WASA CSOs project would have long-term beneficial impacts on wildlife resulting from water quality improvement. Overall, the action alternative would contribute a negligible adverse effect to wildlife in the context of the watershed. Collectively, cumulative effects to wildlife and aquatic biota would be long-term and beneficial because of improved stormwater management practices and the ongoing cleanup of the Anacostia River per the Anacostia Waterfront Initiative, which are improving the overall health of the Anacostia River for wildlife.

Water Resources

As described in the Affected Environment Section, the Anacostia River is an impaired waterway. Past development activities and land uses have contributed to poor water quality conditions. However, land use along the Anacostia River is transitioning from what was previously industrial use to mixed-use residential, office, retail establishments, and parkland. These new land uses, combined with stormwater management regulations, produce fewer pollutants than the land uses in place before the time frame analyzed. The replacement of impervious areas with new waterfront parks and wetlands, such as those proposed at Poplar Point, would further promote the potential for beneficial cumulative effects to surface water. As a result, the current trend for the Anacostia River is a reduction in pollutants. With recent TMDL and associated future implementation plans, this trend is expected to continue. The proposed action would have a negligible impact to water resources because there would be no increase in impervious surface and mitigation measures would be in place to contain sediments during pile driving activities. The action alternative when added to other past, present, and foreseeable future project would contribute a negligible incremental effect to the overall cumulative effect given the relatively small size of the project area when compared to the larger Anacostia River Watershed.

Aesthetics and Visual Resources

Views to and from The Yards project area and other locations in the Capitol Riverfront neighborhood have largely changed due to large-scale redevelopment of the area. Two story structures along the waterfront have been replaced with taller buildings up to 10 to 12 stories in height, creating a new skyline. Viewsheds will continue to change as development continues. The visual field will be reduced as infill buildings between the waterfront and the Capitol building are constructed. While past, present, and reasonably foreseeable future actions are anticipated to have a moderate effect on aesthetics and visual resources in the area, the incremental effects from The Yards In-water Development would be negligible because the marina infrastructure would add only a small element to the overall viewshed.

Neighborhood Character and Community Facilities

The influx of residential and commuter populations due to projects such as the DDOT Headquarters, The Yards, and Poplar Point would likely result in an increased need for parks and recreational facilities. The new marina at The Yards would offer a benefit, as it would serve to connect residents, employees, and visitors to the Anacostia River for water-dependent activities. When combined with other projects within the timeframe, the in-water development would result in a net beneficial effect to the neighborhood character, because of an increase in available community activities and recreation.

Public Safety

Extensive redevelopment in the area has brought an increase in demand for community public safety services such as fire and police. This could place additional burden on these systems. In the absence of plans to prepare for the large increase in residential and commuter populations, a long-term moderate adverse effect on community services could occur. However, because the proposed marina would bring a comparatively low number of visitors to the area when compared to the overall population, the incremental effect to these services is anticipated to be negligible.

Environmental Justice

The proposed action, when added to ongoing redevelopment projects, could result in impacts to environmental justice populations. Prior to 2000, the area was largely comprised of low income and minority populations. Population demographics and income levels have largely changed within the study area since redevelopment projects have commenced. Activities such as the redevelopment of the Arthur Capper/Carrollsburg Complex have temporarily displaced low-income and minority residents as larger multi-use developments are built. While public and low-income housing units will be replaced, it is anticipated that some displaced residents will not return to the area. However, some of the impacts to environmental justice populations would be offset by increased opportunities and improved community facilities. By providing a variety of housing choices for people of all income levels, ongoing redevelopment has helped to create jobs in construction, retail, restaurant, service, and other sectors, as well as bring workers closer to newly created employment and recreation centers.

While the proposed marina would have a negligible impact, overall changes to demographics, housing, income level, employment, and recreational opportunities in the study area would result in both long-term adverse and beneficial effects to environmental justice populations. As studied in the SEFC EIS, new communities within the study area may still qualify as environmental justice communities; however new mixed-income and mixed-use developments within the study area will be closer to the overall income and ethnic makeup of the District of Columbia than prior to the spur in redevelopment. No disproportionately high and adverse cumulative effects on any minority or low-income populations would occur as a result of the proposed action as per Executive Order 12898 regarding environmental justice.

Infrastructure

Increased demands on systems that provide such services as water, sewer, solid waste removal, and electricity are anticipated with new development activity. While WASA, PEPCO, WMATA, and other District services continuously plan for regional growth, each individual project must prepare studies to determine if supply is adequate to serve the project's needs. The incremental effects of a new marina are anticipated to be minor, as the project would place a relatively small demand on existing infrastructure.

Transportation and Circulation

Other past projects, such as the Nationals Ball Park and DDOT Headquarters for example, have increased the use of public transportation to the project area and has resulted in an increase in parking demand. For the action alternative, the majority of users of the proposed marina and public piers are anticipated to be either residents of The Yards, visitors to The Yards and other area retail and restaurant facilities, pedestrians or bicyclists using the Riverwalk Trail. As parking would not be provided for the marina, the majority of users are not anticipated to access the site by motor vehicle. For the waterside transportation, the action alternative is expected to add boat traffic to the Anacostia River; however, the number of boats the marina will serve is very low in the context of boat usage on the Anacostia River. Therefore, the proposed In-water Development would have negligible effects to landside and waterside transportation. When combined with past, present, and reasonably foreseeable future actions, the incremental effects of the action alternative to transportation is very small because of increased boat traffic, which could also increase potential for conflicts between motorized and non-motorized boaters.

Air Quality

Due to the large amount of development in the study area, several projects may be under construction simultaneously. Other construction projects within the immediate vicinity may cumulatively increase concentrations of dust and other construction emissions, which could be of nuisance to residents, employees, and visitors. The incremental effect on air quality due to the action alternative (construction and maintenance of the new marina) is anticipated to be negligible because no more than 50 boats could potentially be added to the existing traffic on the Anacostia River as a result of the project. No onsite stationary emissions would result from the proposed marina. At the regional level, the proposed action when combined with past, present, and reasonably foreseeable projects would have negligible impacts to air quality.

Noise Effects

Normal construction activities involve the use of heavy machinery and vehicles, such as pile drivers and compressors, which produce noise levels ranging from 80 to 100 decibels from 50 feet away. As new residences and work places are occupied within the area, continuing construction activities could potentially be a nuisance.

Following construction activities, mixed-use developments of high-density offices, residences, and retail establishments typically produce less noise compared to the previous industrial uses in the area, resulting in an overall decrease in noise levels. One exception to this could be Washington Nationals Stadium, where ballgames, concerts, and other activities could be heard from outside of the stadium. When combined with past, present, and future actions, the incremental noise effects due to the proposed marina are anticipated to be short-term, minor, and adverse during construction. Following construction, a negligible incremental impact to overall noise levels is anticipated.

Hazardous Materials

Previous industrial uses of the study area have resulted in some hazardous materials leaching into the ground and water. The SEFC site was previously remediated and other ongoing development on both sides of the Anacostia River could result in additional areas being remediated to DDOE and EPA standards required for office, commercial, residential, and transportation uses. Past, present, and reasonably foreseeable redevelopment within the Capitol Riverfront will continue to drive remediation of older industrial sites where hazardous wastes contamination exists in order to comply with current standards. The overall trend is positive because of current regulation enforcing preventative measures and control of release of hazardous substances and site cleanup prior to development.

The action alternative would have negligible long-term effects on hazardous materials because the project would only result in minor risk of spills typical of a marina and effects on human health. When added to other past, present and future projects, the action alternative would contribute a very small incremental effect because of the relative low risk of recreational use of the marina (up to 50 boats).

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5. AGENCY COORDINATION/ PUBLIC INVOLVEMENT

Following is a summary of agency coordination and public outreach. Written correspondence is attached as Appendix B.

US Army Corps of Engineers/Anacostia River Federal Navigation Channel

Because the Anacostia Federal Navigation Channel was a key consideration in the construction and operation of the proposed marina, the design team coordinated with the COE early in the planning process to discuss potential restrictions in regard to the channel. Early coordination included a meeting and several e-mail correspondences.

On October 15, 2008 a meeting with Baltimore District US Army Corps of Engineers, Forest City Washington, and Moffatt & Nichol was convened. The purpose of the meeting was to discuss allowable Anacostia Federal Navigation Channel setbacks for the proposed piers and marina at The Yards. Examples of existing marina Federal Navigation Channel encroachments in the Anacostia and the Washington Channels were presented, along with The Yards marina and pier alternatives. The Yards alternatives included a 72-foot setback (based on 3 to 1 ratio of authorized maintained channel depth of 24 feet), with zero setback (straddling the Federal Navigation Channel line), and with encroachment by over 200 feet within the Federal Navigation Channel. The COE had the following comments:

- COE will need to know the overall effects to the Federal Navigation Channels from all of the proposed waterfront developments in the Anacostia and Washington Channels;
- Navy approval is required;
- The Federal Navigation Channel can be de-authorized by an act of Congress;
- Twenty-five foot setback is acceptable to the COE;
- No construction will be allowed within the Federal Navigation Channel.

On December 8, 2008, an e-mail from Moffatt & Nichol was sent to Monte Franklin with Baltimore District US Army Corps of Engineers asking if a 10-foot setback from the Federal Navigation Channel would be acceptable. An email reply was received on December 10, 2008 stating the COE "does not have any major concerns going to a 10 foot setback. However, please provide a strong justification in your application for the permit" (COE, 2008).

Scoping

Following the development of design concepts for the proposed marina, a formal NEPA scoping period commenced. On July 21, 2009, scoping letters were sent to 108 recipients representing Federal and local agencies, as well as project stakeholders (Attachment A). The scoping letters contained a description of the proposed action, and a request for comments within 30 days of receipt of the letter. A small percentage of letters were returned and resent. Six written responses were received; these letters are summarized in **Table 9**.

Table 9. Summary of Scoping Comments

Stakeholder/Date Received	Comment
Jim Graham Council Member Ward One July 28, 2009	As this project would take place in Ward Eight and does not affect Ward One, this correspondence was shared with Marion Barry, Council Member Ward Eight and Mary Cheh, Chair of the Committee on Government Operations and the Environment.
C. Andrew Lewis DC State Historic Preservation Office August 3, 2009	Concurs with GSA's determination that there is little potential for archeological resources to be impacted by the development. The DC HPO is currently consulting with the U.S. Navy regarding disposition of the two historic piers that are located immediately adjacent to the proposed marina site and asks GSA and Forest City to consider the possibility of reusing the historic piers should they become available.
Faisal Hameed District Department of Transportation August 10, 2009	DDOT recommends that GSA and the developer actively manage the recreational sailing vessels that would use the boat slips at the Yards, assuring that the mast height of these vessels not exceed 32 feet as nearby bridges have a vertical clearance of 35 feet. The 11th Street and Capitol Street Bridge operations will not be manned; therefore bridge opening requests have to be made to DDOT at least 48 hours in advance and openings can only be performed in non-rush hours.

Stakeholder/Date Received	Comment
Harriet Tregoning DC Office of Planning August 12, 2009	DC OP has identified the following policies and actions in the Comprehensive Plan to be addressed throughout the EA process: • Action T-2.1G: Explore opportunities to provide water taxis. • Policy E-1.2.1: Improve environmental conditions along the Anacostia River. • Policy AW-1.1.6 Pedestrian Orientation of Waterfront Uses: provide pedestrian amenities • Mandatory Zoning Commission review • Design requirements • Parking requirements
John Nichols National Marine Fisheries Service August 28, 2009	Should dredging be necessary for this proposal, NMFS would recommend that it be restricted during the migratory fish spawning period, February 15 through June 15. The NMFS has determined that the endangered shortnose sturgeon is present in the tidal Potomac River. Contact Julie Crocker of the Protected Resources Division to determine your agency's Section 7 consultation responsibilities.
Jennifer Ney Anacostia Community Boathouse Association October 20, 2009	Submitted maps of the rowing and paddling practice courses and racing courses. Provided peak times of practice runs from 5:15-7:00 AM and 4:00-8:00 PM from February through March, and an overview of safety requirements.

On Wednesday, September 9, 2009, GSA held a Stakeholders Scoping Meeting at the Forest City offices in Washington, DC. Eighteen (18) people attended the meeting.

The EA project team was introduced to the meeting attendees followed by a presentation with a brief history and overview of the project as well as a summary of the project purpose and need. A description of the NEPA process was provided to the attendees along with a summary of the design concepts and alternatives/concepts under consideration. A discussion followed the presentation, and is summarized in **Table 10**.

Table 10. Summary of Scoping Meeting Questions, Comments, and Responses

Stakeholder	Comment	Response
Diane Sullivan (NCPC)	• It seemed from the example concept drawings that there were shorter public piers on some of the drawings.	• The drawings were used to illustrate the different setbacks. The maximum length of public piers would be included in the alternative(s) carried forward.
Robert Day (Anacostia Community Boathouse Association)	• Would there be fixed public piers and floating piers for the recreational boats? • Inquired of any known plans for a water taxi service. • Stated that his organization supports the project. • Requested that the transportation section of the EA include an analysis of the in-water transportation system, including non-motorized boating on the river.	• There would be floating piers for the recreational boats and the area would be secured. • There is an existing water taxi service operating on the Potomac. Other potential water taxi and new ferry services are being contemplated to serve new destination points. The pier would be designed to accommodate a future water taxi stop, but there are no finite plans for water taxi service in the Anacostia and so water taxi operation will be discussed in very general terms in the EA.
Sarah Batcheler (Commission of Fine Arts)	• Asked about other facilities associated with the marina. • A full description of program activities associated with the marina should be included with the EA.	• A dockmaster's office, restrooms, etc. would be incorporated into buildings already to be constructed at the Yards. The marina would be low-service, but a sewage pump-out station and utility pedestals for water and electrical services would be included. • The team agreed that a description would be included in the document, and that it would be conceptual at this stage.

Stakeholder	Comment	Response
John Whitney (HNTB/DDOT)	• Asked how many slips could be accommodated with the 10-foot setback over other setbacks. • DDOT is planning improvements to the 11th Street and South Capitol Street bridges over the Anacostia. Allowable mast height would be a concern.	• Up to 50 slips could be accommodated with the 10-foot setbacks, 35 slips with a 25-foot setback, and only 1 row with the 72-foot setback. The length of the slips would be approximately 40 feet. • GSA had received a letter from DDOT detailing the concerns and recommendations, and they will be addressed.
Andrew McIntyre (JBG)	• Asked if the EA will consider the proposed Poplar Point development.	• The EA will address related projects in general terms, based on available information.

Section 7 Consultation

NMFS recommends that should dredging be necessary for the project, it be restricted during migratory fish spawning period from February 15 through June 15 (NOAA, 2009). Based on the recommendation of John Nichols of NMFS (**Table 9**), a letter was sent to Julie Crocker of the NMFS Protected Resources Division. According to NMFS, no documented occurrence of the federally endangered shortnose sturgeon is known to be present in the Anacostia River, based on studies which have occurred between February and November every year since 1991(NMFS, 2009).

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